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FEDERAL AVIATION ADMINISTRATION WASHINGTON D C SYSTE--ETC F/G 1/5
MODEL USERS' MANUAL FOR AIRFIELD CAPACITY AND DELAY MODELS. B00--ETC(U)
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FAA-RD-76-128-BK-2

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1 of 2
ADA036354



Report No. FAA-RD-76-128
BOOK 2

ADA036354

MODEL USERS' MANUAL FOR
AIRFIELD CAPACITY AND DELAY MODELS

Carl T. Ball



November 1976

Final Report

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U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Systems Research & Development Service
Washington, D.C. 20590

Report No. AAA-RD-76-128
BOOK 2

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AIRFIELD CAPACITY AND DELAY MODELS
MODEL USERS' MANUAL FOR

CONF. BILL

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Technical Report Documentation Page

1. Report No. 147 FAA-RD-76-128-Book-2	2. Government Accession No.	3. Recipient's Catalog No.
4. Title and Subtitle 6 Model Users' Manual for Airfield Capacity and Delay Models. Book 2.	5. Report Date 11 November 1976	6. Performing Organization Code 88277
7. Author(s) 10 Carl T. Ball	8. Performing Organization Report No.	10. Work Unit No. (TRAIS) 082-421-214
9. Performing Organization Name and Address U.S. Department of Transportation Federal Aviation Administration Systems Research and Development Service Washington, D.C. 20590	11. Contract or Grant No. 082-421-214	13. Type of Report and Period Covered 9 Final Report
12. Sponsoring Agency Name and Address U.S. Department of Transportation Federal Aviation Administration Systems Research and Development Service Washington, D.C. 20590	14. Sponsoring Agency Code ARD-410	
15. Supplementary Notes 12 173p.		
16. Abstract This report contains examples for the Delay Simulation Model described in Chapter 4 of "Model Users' Manual for Airfield Capacity and Delay Models" FAA-RD-76-128 Book 1, dated November 1976 (AD A033685). 33-685 D D C RECEIVED MAR 4 1977		
17. Key Words Aircraft delay models Runway Capacity Airport Simulation Runway Delay	18. Distribution Statement Document is available to the U.S. public through the National Technical Information Service, Springfield, Virginia 22161.	
19. Security Classif. (of this report) UNCLASSIFIED	20. Security Classif. (of this page) UNCLASSIFIED	21. No. of Pages 173
		22. Price

METRIC CONVERSION FACTORS

Approximate Conversions to Metric Measures

Approximate Conversions from Metric Measures

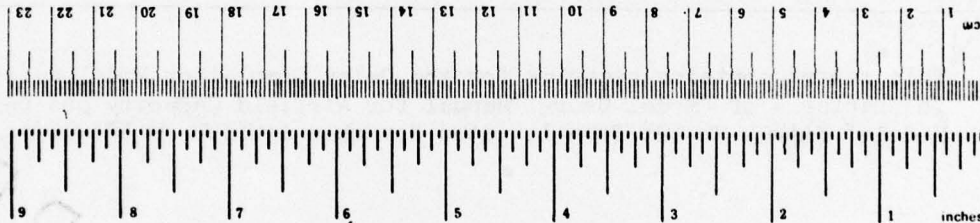
Symbol	When You Know	Multiply by	To Find	Symbol
LENGTH				
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
AREA				
in ²	square inches	6.5	square centimeters	cm ²
ft ²	square feet	0.09	square meters	m ²
yd ²	square yards	0.8	square meters	m ²
mi ²	square miles	2.6	square kilometers	km ²
	acres	0.4	hectares	ha
MASS (weight)				
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
VOLUME				
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft ³	cubic feet	0.03	cubic meters	m ³
yd ³	cubic yards	0.76	cubic meters	m ³

TEMPERATURE (exact)

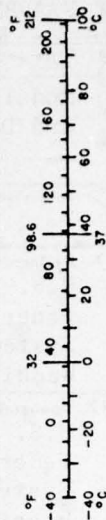
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C
----	------------------------	----------------------------	---------------------	----

TEMPERATURE (exact)

°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F
----	---------------------	-------------------	------------------------	----



* 1 in x 2.54 exactly. For other exact conversions and more data, see NBS Mon. Publ. 280, Units of Weights and Measures, Price \$2.25, SO Catalog No. C-13, 10-296.



PREFACE

The report contains examples for the Delay Simulation Model described in Chapter 4 of "Model Users' Manual for Airfield Capacity and Delay Models" FAA-RD-76-128 dated November 1976.

ADDRESS FOR		White Section	<input checked="checked" type="checkbox"/>
FMS		Red Section	<input type="checkbox"/>
FID			
MARKED			
NOTIFICATION			
BY			
NOTIFICATION/AVAILABILITY			
DATE	TIME	DATE	TIME
A			

ATTACHMENT A

The following examples illustrate the use of the Delay Simulation Model Version 2.

EXAMPLE 1.

A. OBJECTIVE

The airlines at the airport depicted by the link-node diagram in Figure 4-7 are considering purchasing equipment which is projected to reduce gate occupancy time by 30%. Determine the magnitude of the present gate delay and the expected gate delay if the new equipment is added.

B. INPUTS

INPUT CONSIDERATIONS:

1. Limit the analysis to VFR weather conditions.
2. Limit the analysis to one runway use configuration; i.e.,
arrivals on runway 28L & R
departures on runway 28L
no touch-and-go operations
3. Limit the analysis to the hours from 1:00 p.m. to 6:00 p.m. on the average day of the peak month.
4. Use air traffic control procedures effective July 4, 1976.
5. Do not allow departure aircraft to hold at a gate longer than is required to service the aircraft.

FIELD DATA:

Data collected at the airport reveals the following:

<u>Parameter</u>	<u>Heavy Jets</u>	<u>Large Jets</u>
Departure Runway Occupancy Time (mean/standard deviation in seconds)	39/5	39/5
Approach Velocity (mean/standard deviation in knots)	140/5	130/5
Approach Path (n.mi.)	8	8
Gate Occupancy Time (mean/standard deviation in minutes)	50/10	30/5

<u>Taxi Speed (mph)</u>	<u>Link(s)</u>
5	106-115
10	132-135, 125-127
10	116-117, 104-105
15	118-124, 103
20	102, 131
25	128-130, 101

<u>Pushback Time (seconds)</u>	<u>Link(s)</u>
66	1-10
6	21-30

<u>Aircraft Type</u>	<u>Exit Distance (feet)</u>	<u>Arrival Runway Occupancy Time (seconds)</u>	<u>Exit% (Right Angle Exit)</u>	<u>Exit% (High-speed Exit)</u>
1	6000	56	40	100
2	6000	56	70	100
1	8000	73	100	100
2	8000	73	100	100

A penalty box that can accommodate 10 aircraft is located on the west end of the terminal building.

The exclusive use gate sets exist:

<u>Airline</u>	<u>Gates</u>
AA	1-5
TWA	6-8
UA	9-10

All gates are large enough to accommodate heavy jet aircraft.

INPUT ASSUMPTIONS:

1. Insufficient data is available to determine the actual separation between aircraft. Assume that the average separations are those specified in the air traffic control handbook for heavy and large aircraft. Use standard deviations of:

0.5 nautical miles for arrival-arrival separations
0.25 nautical miles for departure-arrival separations
0.25 minutes for departure-departure separations

2. Assume preemptive arrival priority can be obtained by requiring a queue of eight departures before the arrival stream is interrupted. When this condition exists insert a 2.0 minute gap in the arrival stream.

3. Use 10 random number seeds to obtain stochastic convergence.

GEOMETRY DATA:

1. Runway length = 8000 feet
2. Exits 128 and 101 are located 6000 feet from threshold.
3.

Link(s)	Length(feet)
102-126	300
130, 134, 135	400
101	500
128, 129	900
131	1900

NOTE:

- o Links 128 and 129 were made 900 feet long because only two aircraft can hold between the runways.
- o Link 131 was made 1900 feet long to allow the program to operate more efficient in moving aircraft since few aircraft use this section of taxiway.
- o All other links are used at their actual length.

4. Paths are required:

<u>From</u>	<u>To</u>
Link 128	all holding areas & gates
Link 129	" " " "
Link 101	" " " "
Each holding area	to all gates
Each gate	Link 126 (departure end link)

5. There are no one-way paths on the airport.
6. The decision to cross runway 28L is made on links 132 and 133.

SCHEDULE DATA:

1. The schedule data for the hours from 1:00 p.m. to 6:00 p.m. is shown in Figure 4-8. This data includes:

Airline ID
Preferred Gate
Aircraft Class
Arrival Time at Threshold
Departure Time from Gate
Arrival Runway
Departure Runway

2. All aircraft are through flights.

NOTE: The departure time in Figure 4-8 is shown as 1 minute after arrival time at threshold so that the aircraft service time (as opposed to the scheduled departure time) will always govern when the departure leaves the gate.

C. SOLUTION

A listing of the input cards for this example is shown in Figure 4-9. The model runs for this example are shown in Figures 4-10a and 4-10b. From the output of the model runs, the following comparison of gate delay with and without the new equipment can be made:

HOUR	PRESENT SITUATION		WITH NEW EQUIPMENT	
	Gate-in	Gate-out	Gate-in	Gate-out
1-2	2.95	0.05	0.56	0.05
2-3	9.63	0.06	1.83	0.05
3-4	10.49	0.07	2.16	0.04
4-5	16.41	0.08	2.73	0.05
5-6	13.31	0.04	1.64	0.03
Average				

Total arrival gate delay can be calculated as follows:

With New Equipment

$$\begin{aligned}
 0.56 \times 13 &= 7.28 \\
 1.83 \times 12 &= 21.96 \\
 2.16 \times 10 &= 21.60 \\
 2.73 \times 12 &= 32.76 \\
 1.64 \times 13 &= \underline{21.32} \\
 &104.92
 \end{aligned}$$

Present Situation

$$\begin{aligned}
 2.95 \times 13 &= 38.35 \text{ minutes} \\
 9.63 \times 11 &= 105.93 \\
 10.49 \times 10 &= 104.90 \\
 16.41 \times 11 &= 180.51 \\
 13.31 \times 12 &= \underline{159.72} \\
 &589.41
 \end{aligned}$$

The new equipment will reduce gate-in delay by $484.49/589.41 = 83\%$.

The computer time to make these runs cost \$63.

EXAMPLE 2.

A. OBJECTIVE

Determine the average arrival and departure runway delay between 2:00 p.m. and 4:00 p.m. for the airfield shown by the link-node diagram in Figure 4-11.

B. INPUTS

INPUT CONSIDERATIONS:

1. Consider VFR weather conditions.
2. Consider the following runway use configurations:

arrivals on runways 32L & 27R
departures on runways 27L & 32R

3. Use the air traffic control rules effective November 2, 1975.

FIELD DATA:

Data collected during a 2-week period at this airport was used to determine the following parameters:

- o Departure runway occupancy time
- o Touch-and-go runway occupancy time
- o Gate service time
- o Aircraft approach velocity
- o Length of common approach path
- o Exit utilization percent
- o Arrival time-distance histogram
- o Arrival-arrival separations
- o Departure-arrival separations
- o Departure-departure separations
- o Arrival-departure separations

Input values for these parameters are shown in Figure 4-12.

4. Airline gate assignments are shown on Figure 4-12. During data collection, it was determined that airline UA did not normally permit large jets to use gates reserved for heavy jets. Therefore, the gates for heavy jets were assigned to airline UA2 and gates for large jets were assigned to airline UA1.

5. A penalty box that can accommodate five aircraft is located off runway 32L.

INPUT ASSUMPTIONS:

1. Assume preemptive arrival priority can be obtained by requiring a queue of eight departures before the arrival stream is

interrupted. When this condition exits, insert a 2-minute gap in the arrival stream.

2. Use 10 random number seeds to obtain stochastic convergence.

GEOMETRIC DATA:

1. Link data is shown in Figure 4-12. The figure contains:

- o Link length
- o Gate pushback time
- o Gate size
- o Pushback one-way path associated with some gates
- o Aircraft velocity code for each link

1 - 5 miles per hour

2 - 10 " " "

3 - 15 " " "

4 - 23 " " "

5 - 25 " " "

6 - 35 " " "

7 - Special code for pushback time

2. Because of the traffic flow pattern for the runways, no crossing links are required.

3. Exit Locations

Exit Link	Distance(feet)
406	4460
401	5480
391	6800
538	4330
519	5480
530	6080

4. Paths are required to move aircraft between:

- 6 exits and 92 gates
- 6 exits and 5 holding areas
- 5 holding areas and 92 gates
- 92 gates and 2 departure runways

The paths are contained in Figure 4-12.

5. Nineteen one-way paths are required by the flow of aircraft on airfield. Seventeen of these one-way paths represent taxiways serving pier-finger gate arrangements. The remaining two one-way paths (i.e., links 288 and 289) serve as the transition taxiway between the outer and inner taxiway. It has to be entered in both directions; i.e., 288 289 and 289 288.

SCHEDULE DATA:

The schedule data for the hours from 10:00 p.m. to 6:00 p.m. is shown in Figure 4-12. This data includes:

Airline ID
Preferred Gate
Flight Type
Aircraft Class
Arrival Time at Threshold
Departure Time from Gate
Arrival Runway
Departure Runway

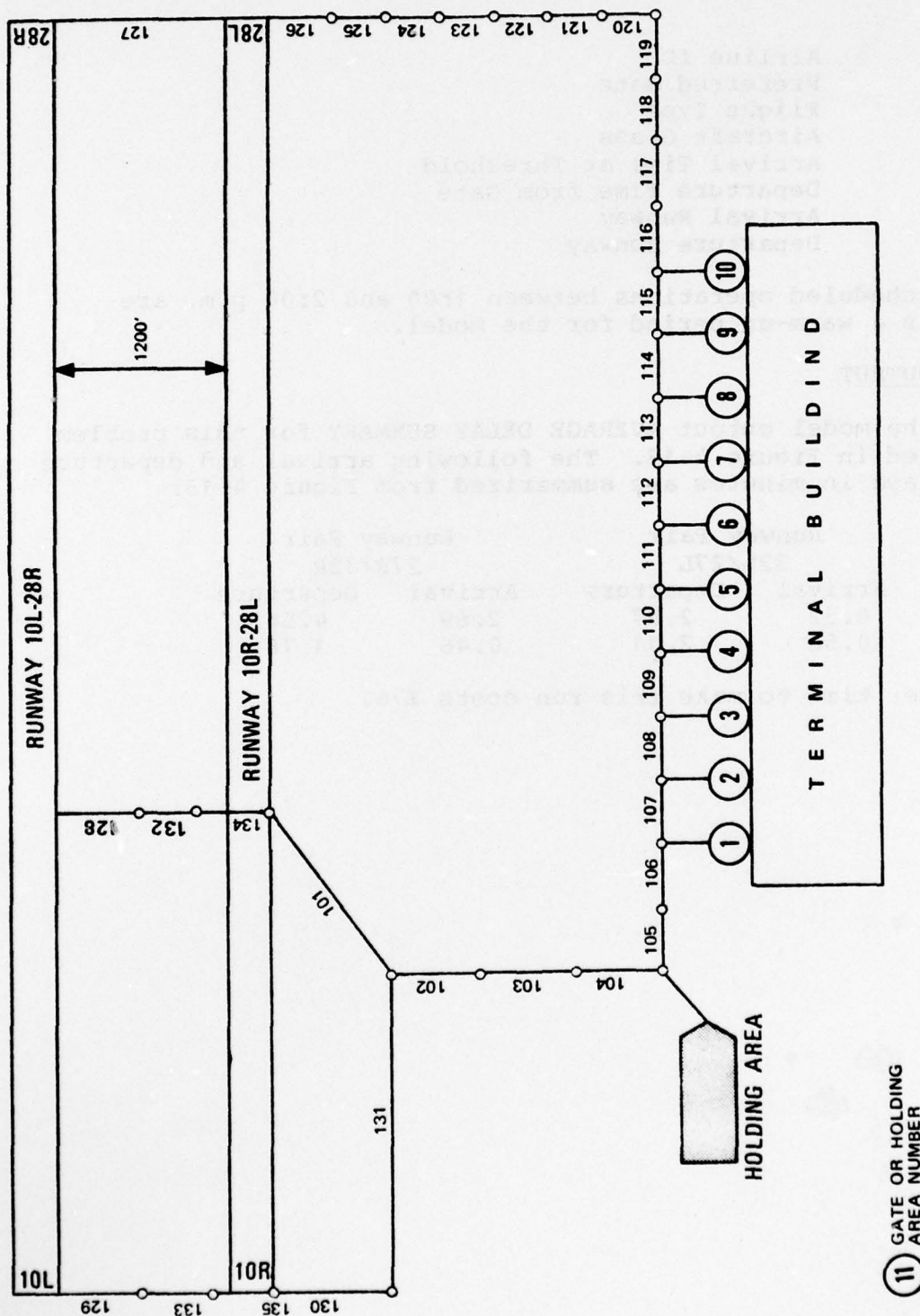
Scheduled operations between 1:00 and 2:00 p.m. are included as a warm-up period for the model.

C. OUTPUT

The model output AVERAGE DELAY SUMMARY for this problem is contained in Figure 4-13. The following arrival and departure runway delays in minutes are summarized from Figure 4-13:

	Runway Pair 32L/27L		Runway Pair 27R/32R	
Hour	Arrival	Departure	Arrival	Departure
2-3	0.52	2.67	2.69	4.56
3-4	0.58	2.01	0.46	1.78

The computer time to make this run costs \$76.



LINK-NODE DIAGRAM FOR EXAMPLE 1
Figure 4-7

<u>Airline ID</u>	<u>Preferred Gate</u>	<u>Aircraft Class</u>	<u>Arrival Time</u>	<u>Departure Time</u>	<u>Arrival Runway</u>	<u>Departure Runway</u>
AA	3	2	1:00	1:01	2	2
AA	2	1	1:02	1:03	1	2
TWA	8	2	1:03	1:04	1	2
UA	9	2	1:03	1:04	2	2
AA	3	2	1:14	1:15	2	2
UA	10	2	1:15	1:16	1	2
AA	3	2	1:16	1:17	2	2
AA	2	1	1:30	1:31	1	2
TWA	8	2	1:31	1:32	1	2
UA	9	2	1:31	1:32	2	2
TWA	6	1	1:32	1:33	2	2
AA	4	2	1:45	1:46	1	2
AA	5	2	1:45	1:46	2	2
UA	10	2	2:00	2:01	1	2
AA	2	1	2:03	2:04	1	2
TWA	7	2	2:03	2:04	2	2
AA	5	2	2:14	2:15	2	2
TWA	6	1	2:16	2:17	2	2
AA	3	2	2:17	2:18	2	2
AA	4	2	2:30	2:31	1	2
AA	2	1	2:31	2:32	1	2
TWA	7	2	2:31	2:32	2	2
UA	10	2	2:33	2:34	1	2
AA	5	2	2:46	2:47	2	2
AA	2	1	2:47	2:48	1	2
AA	1	2	2:52	2:53	2	2
AA	1	2	3:00	3:01	1	2
AA	5	2	3:03	3:04	2	2
TWA	7	2	3:14	3:15	2	2
AA	2	1	3:15	3:16	1	2
AA	1	2	3:16	3:17	1	2
TWA	8	2	3:16	3:17	1	2
UA	9	2	3:16	3:17	2	2
UA	10	2	3:45	3:46	1	2
TWA	6	1	3:45	3:46	2	2
AA	1	2	3:52	3:53	2	2
AA	3	2	3:55	3:56	1	2
AA	3	2	4:00	4:01	2	2
AA	2	1	4:02	4:03	1	2
TWA	8	2	4:03	4:04	1	2
UA	9	2	4:03	4:04	2	2
AA	3	2	4:14	4:15	2	2
UA	10	2	4:15	4:16	1	2
AA	3	2	4:16	4:17	2	2
AA	2	1	4:30	4:31	1	2
TWA	8	2	4:31	4:32	1	2
TWA	6	1	4:32	4:33	2	2
AA	4	2	4:45	4:46	1	2
AA	5	2	4:45	4:46	2	2
UA	10	2	5:00	5:01	1	2
AA	2	1	5:03	5:04	1	2
TWA	7	2	5:03	5:04	2	2
AA	5	2	5:14	5:15	2	2

SCHEDULE DATA FOR EXAMPLE 1
FIGURE 4-8

<u>Airline ID</u>	<u>Preferred Gate</u>	<u>Aircraft Class</u>	<u>Arrival Time</u>	<u>Departure Time</u>	<u>Arrival Runway</u>	<u>Departure Runway</u>
TWA	6	1	5:16	5:17	2	2
AA	3	2	5:17	5:18	2	2
AA	4	2	5:30	5:31	1	2
AA	2	1	5:31	5:32	1	2
TWA	7	2	5:31	5:32	2	2
UA	9	2	5:32	5:33	2	2
UA	10	2	5:33	5:34	1	2
AA	5	2	5:46	5:47	2	2
AA	2	1	5:47	5:48	1	2
AA	1	2	5:52	5:53	2	2
AA	1	2	6:00	6:01	1	2
UA	9	2	6:00	6:01	2	2
AA	5	2	6:03	6:04	2	2
TWA	7	2	6:14	6:15	2	2
AA	2	1	6:15	6:16	1	2
AA	1	2	6:16	6:17	1	2
TWA	8	2	6:16	6:17	1	2
UA	9	2	6:16	6:17	2	2
UA	10	2	6:45	6:46	1	2
TWA	6	1	6:45	6:46	2	2
AA	1	2	6:52	6:53	2	2
AA	-3	2	6:55	6:56	1	2

FIGURE 4-8 (Cont.)


```
//FAAPRG1 JOB (L,1353706,T0891),'C. BALL-FAA',
// LIM=(2,5,10,20),REGION=490K
// *DSS FAHYDSS
// EXEC FORTGO
//STEPLIB DD DISP=(OLD,KEEP),UNIT=3330-1,
// DSN=SYS3.FAA.DELAY.VER1,VOL=SER=CSLB40
//GO.FT06F001 DD SYSOUT=A
//GO.FT09F001 DD UNIT=SYSDA,SPACE=(TRK,(5,5))
//GO.FT08F001 DD *
```

AL	GATE	FT	AC	CLASS	ARR	DEPT	ARR	RW	DEPT	RW
AA	3	3	2		1:00	1:01		2		2
AA	2	3	1		1:02	1:03		1		2
TWA	8	3	2		1:03	1:04		1		2
UA	9	3	2		1:03	1:04		2		2
AA	3	3	2		1:14	1:15		2		2
UA	10	3	2		1:15	1:16		1		2
AA	3	3	2		1:16	1:17		2		2
AA	2	3	1		1:30	1:31		1		2
TWA	8	3	2		1:31	1:32		1		2
UA	9	3	2		1:31	1:32		2		2
TWA	6	3	1		1:32	1:33		2		2
AA	4	3	2		1:45	1:46		1		2
AA	5	3	2		1:45	1:46		2		2
UA	10	3	2		2:00	2:01		1		2
AA	2	3	1		2:03	2:04		1		2
TWA	7	3	2		2:03	2:04		2		2
AA	5	3	2		2:14	2:15		2		2
TWA	6	3	1		2:16	2:17		2		2
AA	3	3	2		2:17	2:18		2		2
AA	4	3	2		2:30	2:31		1		2
AA	2	3	1		2:31	2:32		1		2
TWA	7	3	2		2:31	2:32		2		2
UA	10	3	2		2:33	2:34		1		2
AA	5	3	2		2:46	2:47		2		2
AA	2	3	1		2:47	2:48		1		2
AA	1	3	2		2:52	2:53		2		2
AA	1	3	2		3:00	3:01		1		2
AA	5	3	2		3:03	3:04		2		2
TWA	7	3	2		3:14	3:15		2		2
AA	2	3	1		3:15	3:16		1		2
AA	1	3	2		3:16	3:17		1		2
TWA	8	3	2		3:16	3:17		1		2
UA	9	3	2		3:16	3:17		2		2
UA	10	3	2		3:45	3:46		1		2
TWA	6	3	1		3:45	3:46		2		2
AA	1	3	2		3:52	3:53		2		2
AA	3	3	2		3:55	3:56		1		2
AA	3	3	2		4:00	4:01		2		2
AA	2	3	1		4:02	4:03		1		2
TWA	8	3	2		4:03	4:04		1		2
UA	9	3	2		4:03	4:04		2		2

LISTING OF INPUT CARDS FOR EXAMPLE 1
FIGURE 4-9

AA	3	3	2	4:14	4:15	2	2
UA	10	3	2	4:15	4:16	1	2
AA	3	3	2	4:16	4:17	2	2
AA	2	3	1	4:30	4:31	1	2
TWA	8	3	2	4:31	4:32	1	2
TWA	6	3	1	4:32	4:33	2	2
AA	4	3	2	4:45	4:46	1	2
AA	5	3	2	4:45	4:46	2	2
UA	10	3	2	5:00	5:01	1	2
AA	2	3	1	5:03	5:04	1	2
TWA	7	3	2	5:03	5:04	2	2
AA	5	3	2	5:14	5:15	2	2
TWA	6	3	1	5:16	5:17	2	2
AA	3	3	2	5:17	5:18	2	2
AA	4	3	2	5:30	5:31	1	2
AA	2	3	1	5:31	5:32	1	2
TWA	7	3	2	5:31	5:32	2	2
UA	9	3	2	5:32	5:33	2	2
UA	10	3	2	5:33	5:34	1	2
AA	5	3	2	5:46	5:47	2	2
AA	2	3	1	5:47	5:48	1	2
AA	1	3	2	5:52	5:53	2	2
AA	1	3	2	6:00	6:01	1	2
UA	9	3	2	6:00	6:01	2	2
AA	5	3	2	6:03	6:04	2	2
TWA	7	3	2	6:14	6:15	2	2
AA	2	3	1	6:15	6:16	1	2
AA	1	3	2	6:16	6:17	1	2
TWA	8	3	2	6:16	6:17	1	2
UA	9	3	2	6:16	6:17	2	2
UA	10	3	2	6:45	6:46	1	2
TWA	6	3	1	6:45	6:46	2	2
AA	1	3	2	6:52	6:53	2	2
AA	-3	3	2	6:55	6:56	1	2

FIGURE 4-9 (Cont.)

```

//GO.SYSIN DD *
TITLE
EXAMPLE 1
RANDOM NUMBER SEEDS
10
2001 2002 2003 2004 2005 2006 2007 2008 2009 2000
A/C SERVICE TIMES
CLASS 1 MEAN 50.0 STD 10.0
-2 30.0 5.0
TIMES(START.FINISH)
1:00 6:00
PRINT OPTIONS
FALSE FALSE TRUE FALSE FALSE FALSE
RWYS NO. OF
2
RWY NAMES
28R 28L 126
RWY END LINKS
0 126
RWY XING LINKS
RUNWAY # LINK #
2 132
-2 133
RWY INTERARRIVAL GAP
QUEUE LENGTH 8 GAP 2.0
RWY DEP. OCCUPANCY TIMES
CLASS 1 MEAN 39.0 STD 5.0
-2 39.0 5.0
RWY I/GO OCCUPANCY TIMES
CLASS 1 MEAN 25.0 STD 2.0
-2 25.0 2.0

```

FIGURE 4-9 (Cont.)

RWY LENGTHS OF COMMON APPROACH PATHS IN NAUTICAL MILES

RWY 1 CLASS 1 8.0
 1 2 8.0
 2 1 8.0
 2 2 8.0

RWY EXIT SELECTION

1 1 2
 128 .4 129 .0
 2 1 2
 128 .7 129 .3
 1 2 1
 101 1.0
 -2 2 1
 101 1.0

RWY EXIT DISTANCES

128 6000. 129 8000. 101 6000.
 1 9
 1000. 12. 2000. 21. 3000. 29. 4000. 38.
 6000. 56. 7000. 65. 8000. 73. 9000. 82.

RWY ARRIVAL OCCUPANCY TIMES (DISTANCE OF EXIT TAXIWAY, TIME)

128 6000. 129 8000. 101 6000.
 1 9
 1000. 12. 2000. 21. 3000. 29. 4000. 38.
 6000. 56. 7000. 65. 8000. 73. 9000. 82.
 -2 9
 1000. 12. 2000. 21. 3000. 29. 4000. 38.
 6000. 56. 7000. 65. 8000. 73. 9000. 82.

FIGURE 4-9 (Cont.)

TAXIWAY LINKS			
LINK NO.	SIZE	LENGTH (SPD)	SPEED CODE 1-WAY ROUTE NO.
1	1	1.10	7
2	1	1.10	7
3	1	1.10	7
4	1	1.10	7
5	1	1.10	7
6	1	1.10	7
7	1	1.10	7
8	1	1.10	7
9	1	1.10	7
10	1	1.10	7
21	1	.10	7
22	1	.10	7
23	1	.10	7
24	1	.10	7
25	1	.10	7
26	1	.10	7
27	1	.10	7
28	1	.10	7
29	1	.10	7
30	1	.10	7
101		500.	5
102		300.	4
103		300.	3
104		300.	2
105		300.	2
106		300.	1
107		300.	1
108		300.	1
109		300.	1
110		300.	1
111		300.	1
112		300.	1
113		300.	1
114		300.	1
115		300.	1
116		300.	2
117		300.	2
118		300.	3
119		300.	3
120		300.	3
121		300.	3
122		300.	3
123		300.	3
124		300.	3
125		300.	2
126		300.	2
128		900.	5
129		900.	5
130		400.	5
131		1900.	4
132		300.	2
133		300.	2
134		400.	2
135		400.	-2

FIGURE 4-9 (Cont.)

TAXIWAY ROUTES

22	106	107	108	109	110	111	112	113	114
1	116	117	118	119	120	121	122	123	124
115	125								
21	107	108	109	110	111	112	113	114	115
2	117	118	119	120	121	122	123	124	125
116									
126									
20									
3	108	109	110	111	112	113	114	115	116
117	118	119	120	121	122	123	124	125	126
19									
4	109	110	111	112	113	114	115	116	117
118	119	120	121	122	123	124	125	126	
18									
5	110	111	112	113	114	115	116	117	118
119	120	121	122	123	124	125	126		
17									
6	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126			
16									
7	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126				
15									
8	113	114	115	116	117	118	119	120	121
122	123	124	125	126					
14									
9	114	115	116	117	118	119	120	121	122
123	124	125	126						
13									
10	115	116	117	118	119	120	121	122	123
124	125	126							

FIGURE 4-9 (Cont.)

5	102	103	104	21
101	102	103	104	22
5	102	103	104	23
101	102	103	104	24
5	102	103	104	25
101	102	103	104	26
5	102	103	104	27
101	102	103	104	28
5	102	103	104	29
101	102	103	104	30

FIGURE 4-9 (Cont.)

19	132	134	101	102	103	104	105	106	107
128	109	110	111	112	113	114	115	116	
108									
18									
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114	115	116	
17							9		
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
16						8			
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
15						7			
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
14									
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
13									
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
12									
128	132	134	101	102	103	104	105	106	107
108	109	110	111	112	113	114			
11									
128	132	134	101	102	103	104	105	106	107
10									
128	132	134	101	102	103	104	105	106	1

FIGURE 4-9 (Cont.)

128	132	134	101	103	104	21
128	132	134	101	103	104	22
128	132	134	101	103	104	23
128	132	134	101	103	104	24
128	132	134	101	103	104	25
128	132	134	101	103	104	26
128	132	134	101	103	104	27
128	132	134	101	103	104	28
128	132	134	101	103	104	29
128	132	134	101	103	104	30

FIGURE 4-9 (Cont.)

20	133	135	130	131	102	103	104	105	106
129	108	109	110	111	112	113	114	115	10
107									
19									
129	133	135	130	131	102	103	104	105	106
107	108	109	110	111	112	113	114	9	
18									
129	133	135	130	131	102	103	104	105	106
107	108	109	110	111	112	113	8		
17									
129	133	135	130	131	102	103	104	105	106
107	108	109	110	111	112	7			
16									
129	133	135	130	131	102	103	104	105	106
107	108	109	110	111	112	6			
15									
129	133	135	130	131	102	103	104	105	106
107	108	109	110	5					
14									
129	133	135	130	131	102	103	104	105	106
107	108	109	4						
13									
129	133	135	130	131	102	103	104	105	106
107	108	109	3						
12									
129	133	135	130	131	102	103	104	105	106
107	2								
11									
129	133	135	130	131	102	103	104	105	106
1									

FIGURE 4-9 (Cont.)

129 ⁹	133	135	130	131	102	103	104	21
129 ⁹	133	135	130	131	102	103	104	22
129 ⁹	133	135	130	131	102	103	104	23
129 ⁹	133	135	130	131	102	103	104	24
129 ⁹	133	135	130	131	102	103	104	25
129 ⁹	133	135	130	131	102	103	104	26
129 ⁹	133	135	130	131	102	103	104	27
129 ⁹	133	135	130	131	102	103	104	28
129 ⁹	133	135	130	131	102	103	104	29
129 ⁹	133	135	130	131	102	103	104	30

FIGURE 4-9 (Cont.)

FIGURE 4-9 (Cont.)

[illegible]

FIGURE 4-9 (Cont.)

FIGURE 4-9 (Cont.)

FIGURE 4-9 (Cont.)

[illegible]

FIGURE 4-9 (Cont.)

FIGURE 4-9 (Cont.)

AIRPORT DELAY SIMULATION MODEL--VERSION IID

INPUT DATA

EXAMPLE 1

NUMBER OF RANDOM NUMBER SEEDS
10

RANDOM NUMBER SEEDS
2001 2002 2003 2004 2005 2006 2007 2008 2009 2000

START TIME AND FINISH TIME
1:0 6:0

PRINT OPTIONS F F T T F F F F F

NUMBER OF RUNWAYS
2

RUNWAY NAMES
28R 28L

RUNWAY END LINK NUMBERS
0 126

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM
2 132
2 133

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
8 2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	39.00	5.00
2	39.00	5.00
3	0.0	0.0
4	0.0	0.0

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1	25.00	2.00
2	25.00	2.00
3	0.0	0.0
4	0.0	0.0

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)

1	50.00	10.00
2	30.00	5.00
3	0.0	0.0
4	0.0	0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)

1	140.00	5.00
2	130.00	5.00
3	0.0	0.0
4	0.0	0.0

MODEL RUN FOR EXAMPLE 1 - PRESENT CONDITIONS
FIGURE 4-10a

LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)

1	8.00
1	8.00
1	3
1	0.0
1	4
1	0.0
2	1
2	8.00
2	2
2	8.00
2	3
2	0.0
2	0.0

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)

CLASS 1 R/V	1	128.	0.40	129.	1.00
CLASS 2 R/V	1	128.	0.70	129.	1.00
CLASS 3 R/V	1	0.			
CLASS 4 R/V	1	0.			
CLASS 1 R/V	2	101.	1.00		
CLASS 2 R/V	2	101.	1.00		
CLASS 3 R/V	2	0.			
CLASS 4 R/V	2	0.			

NUMBER OF EXITS

3

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)

128	6000.0
129	8000.0
101	6000.0

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)

CLASS 1	1000.0	12.00	2000.0	21.00	3000.0	29.00	4000.0	38.00	5000.0	47.00
6000.0	56.00	7000.0	65.00	8000.0	73.00	9000.0	82.00			
CLASS 2	1000.0	12.00	2000.0	21.00	3000.0	29.00	4000.0	38.00	5000.0	47.00
6000.0	56.00	7000.0	65.00	8000.0	73.00	9000.0	82.00			
CLASS 3	0.0									
CLASS 4	0.0									

NUMBER OF HOLDING AREAS

10

HOLDING AREA NUMBERS

21	22	23	24	25	26	27	28	29	30
----	----	----	----	----	----	----	----	----	----

NUMBER OF G/A HOLDING AREAS

0

G/A HOLDING AREA NUMBERS

0

TAXIING SPEEDS IN MPH

5.00	10.00	15.00	20.00	25.00	30.00
------	-------	-------	-------	-------	-------

FIGURE 4-10a (Cont.)

FAIRWAY LINK DATA LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY ROUTE NO.
1	1	1.10	7	0
2	1	1.10	7	0
3	1	1.10	7	0
4	1	1.10	7	0
5	1	1.10	7	0
6	1	1.10	7	0
7	1	1.10	7	0
8	1	1.10	7	0
9	1	1.10	7	0
10	1	1.10	7	0
21	1	0.10	7	0
22	1	0.10	7	0
23	1	0.10	7	0
24	1	0.10	7	0
25	1	0.10	7	0
26	1	0.10	7	0
27	1	0.10	7	0
28	1	0.10	7	0
29	1	0.10	7	0
30	1	0.10	7	0
101	0	500.00	5	0
102	0	300.00	4	0
103	0	300.00	3	0
104	0	300.00	2	0
105	0	300.00	2	0
106	0	300.00	1	0
107	0	300.00	1	0
108	0	300.00	1	0
109	0	300.00	1	0
110	0	300.00	1	0
111	0	300.00	1	0
112	0	300.00	1	0
113	0	300.00	1	0
114	0	300.00	1	0
115	0	300.00	1	0
116	0	300.00	2	0
117	0	300.00	2	0
118	0	300.00	3	0
119	0	300.00	3	0
120	0	300.00	3	0
121	0	300.00	3	0
122	0	300.00	3	0
123	0	300.00	3	0
124	0	300.00	3	0
125	0	300.00	2	0
126	0	300.00	2	0
128	0	900.00	5	0
129	0	900.00	5	0
130	0	400.00	5	0
131	0	1900.00	4	0
132	0	300.00	2	0
133	0	300.00	2	0
134	0	400.00	2	0
135	0	400.00	2	0

FIGURE 4-10a (Cont.)

PATH 29	101 102 103 104 29	5	LOCATION	331	1.066
PATH 30	101 102 103 104 30	5	LOCATION	336	1.066
PATH 31	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 10	19	LOCATION	341	10.430
PATH 32	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 9	18	LOCATION	360	9.748
PATH 33	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 8	17	LOCATION	378	9.066
PATH 34	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 7	16	LOCATION	395	8.384
PATH 35	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 6	15	LOCATION	411	7.702
PATH 36	128 132 134 101 102 103 104 105 106 107 108 109 110 111 5	14	LOCATION	426	7.020
PATH 37	128 132 134 101 102 103 104 105 106 107 108 109 110 111 4	13	LOCATION	440	6.339
PATH 38	128 132 134 101 102 103 104 105 106 107 108 109 110 111 3	12	LOCATION	453	5.657
PATH 39	128 132 134 101 102 103 104 105 106 107 108 109 110 111 2	11	LOCATION	465	4.975
PATH 40	128 132 134 101 102 103 104 105 106 107 108 109 110 111 1	10	LOCATION	476	4.293
PATH 41	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	9	LOCATION	486	2.270
PATH 42	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	8	LOCATION	494	2.270
PATH 43	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	7	LOCATION	502	2.270
PATH 44	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	6	LOCATION	510	2.270
PATH 45	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	5	LOCATION	519	2.270
PATH 46	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	4	LOCATION	526	2.270
PATH 47	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	3	LOCATION	534	2.270
PATH 48	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	2	LOCATION	542	2.270
PATH 49	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	1	LOCATION	550	2.270
PATH 50	128 132 134 101 102 103 104 105 106 107 108 109 110 111 0	0	LOCATION	558	2.270
PATH 51	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 115 10	20	LOCATION	566	11.464
PATH 52	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 9	19	LOCATION	586	10.782
PATH 53	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 8	18	LOCATION	605	10.100
PATH 54	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 7	17	LOCATION	623	9.418
PATH 55	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 6	16	LOCATION	640	8.736
PATH 56	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 5	15	LOCATION	656	8.055
PATH 57	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 4	14	LOCATION	671	7.373
PATH 58	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 3	13	LOCATION	685	6.691

FIGURE 4-10a (Cont.)

PATH 59	129 133 135 130 131 102 103 104 105	12	LOCATION 698	6.009
PATH 60	129 133 135 130 131 102 103 104 105	2 11	LOCATION 710	5.327
PATH 61	129 133 135 130 131 102 103 104 105	1	LOCATION 721	3.305
PATH 62	129 133 135 130 131 102 103 104 21	9	LOCATION 730	3.305
PATH 63	129 133 135 130 131 102 103 104 22	9	LOCATION 739	3.305
PATH 64	129 133 135 130 131 102 103 104 23	9	LOCATION 748	3.305
PATH 65	129 133 135 130 131 102 103 104 24	9	LOCATION 757	3.305
PATH 66	129 133 135 130 131 102 103 104 25	9	LOCATION 766	3.305
PATH 67	129 133 135 130 131 102 103 104 26	9	LOCATION 775	3.305
PATH 68	129 133 135 130 131 102 103 104 27	9	LOCATION 784	3.305
PATH 69	129 133 135 130 131 102 103 104 28	9	LOCATION 793	3.305
PATH 70	129 133 135 130 131 102 103 104 29	9	LOCATION 802	3.305
PATH 71	129 133 135 130 131 102 103 104 30	4	LOCATION 811	2.223
PATH 72	21 105 106 1	5	LOCATION 815	2.905
PATH 73	21 105 106 107 2	6	LOCATION 820	3.586
PATH 74	21 105 106 107 108 3	7	LOCATION 826	4.268
PATH 75	21 105 106 107 108 109 4	8	LOCATION 833	4.950
PATH 76	21 105 106 107 108 109 110 5	9	LOCATION 841	5.632
PATH 77	21 105 106 107 108 109 110 111 6	10	LOCATION 850	6.314
PATH 78	21 105 106 107 108 109 110 111 112 7	11	LOCATION 860	6.995
PATH 79	21 105 106 107 108 109 110 111 112 113 8	12	LOCATION 871	7.677
PATH 80	21 105 106 107 108 109 110 111 112 113 114 9	13	LOCATION 883	8.359
PATH 81	21 105 106 107 108 109 110 111 112 113 114 115 10	3	LOCATION 896	1.882
PATH 82	22 106 1	4	LOCATION 899	2.564
PATH 83	22 106 107 2	5	LOCATION 903	3.245
PATH 84	22 106 107 108 3	6	LOCATION 908	3.927
PATH 85	22 106 107 108 109 4	7	LOCATION 914	4.609
PATH 86	22 106 107 108 109 110 5	8	LOCATION 921	5.291
PATH 87	22 106 107 108 109 110 111 6	9	LOCATION 929	5.973
PATH 88	22 106 107 108 109 110 111 112 7	10	LOCATION 938	6.655
PATH 89	22 106 107 108 109 110 111 112 113 8			

FIGURE 4-10a (Cont.)

PATH 89	22 106 107 108 109 110 111 112 113 114	LENGTH 11	LOCATION 948	7.336
PATH 90	22 106 107 108 109 110 111 112 113 114 115	LENGTH 12	LOCATION 959	8.018
PATH 91	22 106 107 108 109 110 111 112 113 114 115	LENGTH 10 4	LOCATION 971	2.223
PATH 92	23 105 106 1	LENGTH 5	LOCATION 975	2.905
PATH 93	23 105 106 107 2	LENGTH 6	LOCATION 980	3.586
PATH 94	23 105 106 107 108 3	LENGTH 7	LOCATION 986	4.268
PATH 95	23 105 106 107 108 109 4	LENGTH 8	LOCATION 993	4.950
PATH 96	23 105 106 107 108 109 110 5	LENGTH 9	LOCATION 1001	5.632
PATH 97	23 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 1010	6.314
PATH 98	23 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 1020	6.995
PATH 99	23 105 106 107 108 109 110 111 112 113 8	LENGTH 12	LOCATION 1031	7.677
PATH 100	23 105 106 107 108 109 110 111 112 113 114 9	LENGTH 13	LOCATION 1043	8.359
PATH 101	23 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 4	LOCATION 1056	2.223
PATH 102	24 105 106 1	LENGTH 5	LOCATION 1060	2.905
PATH 103	24 105 106 107 2	LENGTH 6	LOCATION 1065	3.596
PATH 104	24 105 106 107 108 3	LENGTH 7	LOCATION 1071	4.268
PATH 105	24 105 106 107 108 109 4	LENGTH 8	LOCATION 1078	4.950
PATH 106	24 105 106 107 108 109 110 5	LENGTH 9	LOCATION 1086	5.632
PATH 107	24 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 1095	6.314
PATH 108	24 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 1105	6.995
PATH 109	24 105 106 107 108 109 110 111 112 113 8	LENGTH 12	LOCATION 1116	7.677
PATH 110	24 105 106 107 108 109 110 111 112 113 114 9	LENGTH 13	LOCATION 1128	8.359
PATH 111	24 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 4	LOCATION 1141	2.223
PATH 112	25 105 106 1	LENGTH 5	LOCATION 1145	2.905
PATH 113	25 105 106 107 2	LENGTH 6	LOCATION 1150	3.586
PATH 114	25 105 106 107 108 3	LENGTH 7	LOCATION 1156	4.268
PATH 115	25 105 106 107 108 109 4	LENGTH 8	LOCATION 1163	4.950
PATH 116	25 105 106 107 108 109 110 5	LENGTH 9	LOCATION 1171	5.632
PATH 117	25 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 1180	6.314
PATH 118	25 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 1190	6.995
PATH 119	25 105 106 107 108 109 110 111 112 113 8	LENGTH 11		

FIGURE 4-10a (Cont.)

PATH 119	25 105 106 107 108 109 110 111 112 113 114	LENGTH 12	LOCATION 1201	7.677
PATH 120	25 105 106 107 108 109 110 111 112 113 114	LENGTH 9	LOCATION 1213	8.359
PATH 121	25 105 106 107 108 109 110 111 112 113 114	LENGTH 13	LOCATION 1226	2.223
PATH 122	26 105 106 1	LENGTH 4	LOCATION 1230	2.905
PATH 123	26 105 106 107 2	LENGTH 5	LOCATION 1235	3.586
PATH 124	26 105 106 107 108 3	LENGTH 6	LOCATION 1241	4.268
PATH 125	26 105 106 107 108 109 4	LENGTH 7	LOCATION 1248	4.950
PATH 126	26 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1256	5.632
PATH 127	26 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1265	6.314
PATH 128	26 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1275	6.995
PATH 129	26 105 106 107 108 109 110 111 112 113 8	LENGTH 11	LOCATION 1286	7.677
PATH 130	26 105 106 107 108 109 110 111 112 113 114 9	LENGTH 12	LOCATION 1298	8.359
PATH 131	26 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 13	LOCATION 1311	2.223
PATH 132	27 105 106 1	LENGTH 4	LOCATION 1315	2.905
PATH 133	27 105 106 107 2	LENGTH 5	LOCATION 1320	3.586
PATH 134	27 105 106 107 108 3	LENGTH 6	LOCATION 1326	4.268
PATH 135	27 105 106 107 108 109 4	LENGTH 7	LOCATION 1333	4.950
PATH 136	27 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1341	5.632
PATH 137	27 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1350	6.314
PATH 138	27 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1360	6.995
PATH 139	27 105 106 107 108 109 110 111 112 113 8	LENGTH 11	LOCATION 1371	7.677
PATH 140	27 105 106 107 108 109 110 111 112 113 114 9	LENGTH 12	LOCATION 1383	8.359
PATH 141	27 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 13	LOCATION 1396	2.223
PATH 142	28 105 106 1	LENGTH 4	LOCATION 1400	2.905
PATH 143	28 105 106 107 2	LENGTH 5	LOCATION 1405	3.586
PATH 144	28 105 106 107 108 3	LENGTH 6	LOCATION 1411	4.268
PATH 145	28 105 106 107 108 109 4	LENGTH 7	LOCATION 1418	4.950
PATH 146	28 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1426	5.632
PATH 147	28 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1435	6.314
PATH 148	28 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1445	6.995
PATH 149	28 105 106 107 108 109 110 111 112 113 8	LENGTH 11		

FIGURE 4-10a (Cont.)

PATH 149	28 105 106 107 108 109 110 111 112	LENGTH 12	LOCATION 1456	7.677
PATH 150	28 105 106 107 108 109 110 111 112	LENGTH 13	LOCATION 1468	8.359
PATH 151	28 105 106 107 108 109 110 111 112	LENGTH 14	LOCATION 1481	2.223
PATH 152	29 105 106 1	LENGTH 5	LOCATION 1485	2.905
PATH 153	29 105 106 107 2	LENGTH 6	LOCATION 1490	3.586
PATH 154	29 105 106 107 108 3	LENGTH 7	LOCATION 1496	4.268
PATH 155	29 105 106 107 108 109 4	LENGTH 8	LOCATION 1503	4.950
PATH 156	29 105 106 107 108 109 110 5	LENGTH 9	LOCATION 1511	5.632
PATH 157	29 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 1520	6.314
PATH 158	29 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 1530	6.995
PATH 159	29 105 106 107 108 109 110 111 112 113 8	LENGTH 12	LOCATION 1541	7.677
PATH 160	29 105 106 107 108 109 110 111 112 113 114 9	LENGTH 13	LOCATION 1553	8.359
PATH 161	29 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 14	LOCATION 1566	2.223
PATH 162	30 105 106 1	LENGTH 5	LOCATION 1570	2.905
PATH 163	30 105 106 107 2	LENGTH 6	LOCATION 1575	3.586
PATH 164	30 105 106 107 108 3	LENGTH 7	LOCATION 1581	4.268
PATH 165	30 105 106 107 108 109 4	LENGTH 9	LOCATION 1588	5.632
PATH 166	30 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 1597	6.314
PATH 167	30 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 1607	6.995
PATH 168	30 105 106 107 108 109 110 111 112 113 8	LENGTH 12	LOCATION 1618	7.677
PATH 169	30 105 106 107 108 109 110 111 112 113 114 9	LENGTH 13	LOCATION 1630	8.359
PATH 170	30 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 14		

THIS AIRPORT USES THE FOLLOWING: 169
 LINKS: 54 PATHS: 1642
 AVERAGE PATH LENGTH IS 9.72 SEGMENTS

FIGURE 4-10a (Cont.)

TAXIWAY ONE-WAY PATHS.
LINKS 0

NUMBER OF AIRLINES
3

AIRLINE CODES
AA TWA UA

AIRLINE GATES

AA	1	2	3	4	5
TWA	6	7	8		
UA	9	10			

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)
0.0

A/C SEPARATIONS

128 SEPARATION VALUES IN 4 SETS OF 32. ARRIVAL / ARRIVAL, DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 - D CLASS
2 - C CLASS
3 - B CLASS
4 - A CLASS

THE ORDER OF SETS OF (X,Y) IS -
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY		1		TRAIL A/C RUNWAY		1		128 SEPARATION VALUES IN 4 SETS OF 32. A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)	
4.00	0.50	5.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
3.00	0.50	3.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.25	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.25	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00	0.25	2.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
1.25	0.15	1.25	0.15	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

FIGURE 4-10a (Cont.)

A/C SCHEDULE DATA A/C NO.	AIRLINE	GATE	FLT. TYPE	CLASS	ARRIVE	DEPART	SERV. TIME	ARR. RWY	DEP. RWY
1	AA	3	3	2	1:0	1:1	20.00	2	2
2	AA	2	3	1	1:2	1:3	49.41	1	2
3	TWA	8	3	2	1:3	1:4	21.63	1	2
4	UA	9	3	2	1:3	1:4	32.26	2	2
5	AA	3	3	2	1:14	1:15	24.84	2	2
6	UA	10	3	2	1:15	1:16	30.73	1	2
7	AA	3	3	2	1:16	1:17	29.42	2	2
8	AA	2	3	1	1:30	1:31	57.08	1	2
9	TWA	8	3	2	1:31	1:32	38.82	1	2
10	UA	9	3	2	1:31	1:32	39.13	2	2
11	TWA	6	3	1	1:32	1:33	52.94	2	2
12	AA	4	3	2	1:45	1:46	20.95	1	2
13	AA	5	3	2	1:45	1:46	35.81	2	2
14	UA	10	3	2	2:0	2:1	27.42	1	2
15	AA	2	3	1	2:3	2:4	50.55	1	2
16	TWA	7	3	2	2:3	2:4	26.99	2	2
17	AA	5	3	2	2:14	2:15	28.31	2	2
18	TWA	6	3	1	2:16	2:17	66.18	2	2
19	AA	3	3	2	2:17	2:18	28.34	2	2
20	AA	4	3	2	2:30	2:31	24.16	1	2
21	AA	2	3	1	2:31	2:32	67.62	2	2
22	TWA	7	3	2	2:31	2:32	28.65	2	2
23	UA	10	3	2	2:33	2:34	28.16	1	2
24	AA	5	3	2	2:46	2:47	29.97	2	2
25	AA	2	3	1	2:47	2:48	49.65	1	2
26	AA	1	3	2	2:52	2:53	36.58	2	2
27	AA	1	3	2	3:0	3:1	32.24	1	2
28	AA	5	3	2	3:3	3:4	26.91	2	2
29	TWA	7	3	2	3:14	3:15	23.84	2	2
30	AA	2	3	1	3:15	3:16	38.80	1	2
31	AA	1	3	2	3:16	3:17	23.08	1	2
32	TWA	8	3	2	3:16	3:17	27.49	1	2
33	UA	9	3	2	3:16	3:17	38.37	2	2
34	UA	10	3	2	3:45	3:46	34.60	1	2
35	TWA	6	3	1	3:45	3:46	56.34	2	2
36	AA	1	3	2	3:52	3:53	39.19	2	2
37	AA	3	3	2	3:55	3:56	20.91	1	2
38	AA	3	3	2	4:0	4:1	29.69	2	2
39	AA	2	3	1	4:2	4:3	30.05	1	2
40	TWA	8	3	2	4:3	4:4	34.53	1	2
41	UA	9	3	2	4:3	4:4	23.95	2	2
42	AA	3	3	2	4:14	4:15	37.16	2	2
43	UA	10	3	2	4:15	4:16	36.13	1	2
44	AA	3	3	2	4:16	4:17	36.00	2	2
45	AA	2	3	1	4:30	4:31	50.01	1	2
46	TWA	8	3	2	4:31	4:32	24.51	1	2
47	TWA	6	3	1	4:32	4:33	58.00	2	2
48	AA	4	3	2	4:45	4:46	36.11	1	2
49	AA	5	3	2	4:45	4:46	26.56	2	2
50	UA	10	3	2	5:0	5:1	34.24	1	2
51	AA	2	3	1	5:3	5:4	42.25	1	2
52	TWA	7	3	2	5:13	5:14	20.00	2	2
53	AA	5	3	2	5:14	5:15	21.13	2	2
54	TWA	6	3	1	5:16	5:17	47.71	2	2
55	AA	3	3	2	5:17	5:18	30.01	2	2
56	AA	4	3	2	5:30	5:31	32.21	1	2

FIGURE 4-10a (Cont.)

57	AA	2	3	1	5131	5132	42.41	1	2	2
58	TWA	7	3	2	5131	5132	40.00	2	2	2
59	UA	9	3	2	5132	5133	38.15	1	2	2
60	UA	10	3	2	5133	5134	23.22	1	2	2
61	AA	5	3	2	5146	5147	39.29	1	2	2
62	AA	2	3	1	5147	5148	65.47	1	2	2
63	AA	1	3	2	5152	5153	33.05	1	2	2
64	AA	1	3	2	610	611	37.85	1	2	2
65	UA	9	3	2	610	611	27.88	1	2	2
66	AA	5	3	2	614	615	22.00	2	2	2
67	TWA	7	3	2	615	616	32.21	2	2	2
68	AA	2	3	1	616	617	57.24	1	1	1
69	AA	1	3	2	616	617	29.48	1	1	1
70	TWA	8	3	2	616	617	21.15	1	2	2
71	UA	9	3	2	616	617	33.12	1	2	2
72	UA	10	3	2	645	646	33.02	1	2	2
73	TWA	6	3	1	645	646	33.17	2	2	2
74	AA	1	3	2	652	653	27.68	2	2	2
75	AA	3	3	2	655	656	28.30	1	1	1

AIRCRAFT READ IN: 75

FIGURE 4-10a (Cont.)

ALL GATES FOR THIS A/C FULL	A/C=	8 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	99.35 DELAY = 9.36
SUBTRACE POELAY N= 9 DELAY=	9.36				
ALL GATES FOR THIS A/C FULL	A/C=	10 A/C SIZE =	2PREFERRED GATE =	9NEXT GATE VACANT AT	108.38 DELAY = 15.44
SUBTRACE POELAY N= 10 DELAY=	15.44				
ALL GATES FOR THIS A/C FULL	A/C=	8 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	99.35 DELAY = 4.93
ALL GATES FOR THIS A/C FULL	A/C=	10 A/C SIZE =	2PREFERRED GATE =	9NEXT GATE VACANT AT	108.38 DELAY = 13.53
SUBTRACE POELAY N= 10 DELAY=	13.53				
ALL GATES FOR THIS A/C FULL	A/C=	8 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	100.45 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	10 A/C SIZE =	2PREFERRED GATE =	9NEXT GATE VACANT AT	109.48 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	16 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	130.16 DELAY = 4.11
ALL GATES FOR THIS A/C FULL	A/C=	16 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	130.16 DELAY = 2.20
ALL GATES FOR THIS A/C FULL	A/C=	16 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	131.26 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	18 A/C SIZE =	1PREFERRED GATE =	6NEXT GATE VACANT AT	146.83 DELAY = 10.84
SUBTRACE POELAY N= 18 DELAY=	10.84				
ALL GATES FOR THIS A/C FULL	A/C=	18 A/C SIZE =	1PREFERRED GATE =	6NEXT GATE VACANT AT	146.83 DELAY = 8.93
SUBTRACE POELAY N= 18 DELAY=	8.93				
ALL GATES FOR THIS A/C FULL	A/C=	19 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	138.97 DELAY = 0.08
ALL GATES FOR THIS A/C FULL	A/C=	19 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	142.28 DELAY = 1.48
ALL GATES FOR THIS A/C FULL	A/C=	19 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	143.38 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	18 A/C SIZE =	1PREFERRED GATE =	6NEXT GATE VACANT AT	147.93 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	22 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	151.45 DELAY = 0.46
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	151.63 DELAY = 0.38
ALL GATES FOR THIS A/C FULL	A/C=	22 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	173.72 DELAY = 20.82
SUBTRACE POELAY N= 22 DELAY=	20.82				
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	154.59 DELAY = 0.23
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	154.93 DELAY = 0.34
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	155.27 DELAY = 0.34
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	155.95 DELAY = 0.68
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	156.63 DELAY = 0.68
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	165.36 DELAY = 8.73
SUBTRACE POELAY N= 21 DELAY=	8.73				
ALL GATES FOR THIS A/C FULL	A/C=	21 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	166.46 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	25 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	167.26 DELAY = 0.27
ALL GATES FOR THIS A/C FULL	A/C=	25 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	170.25 DELAY = 0.15
ALL GATES FOR THIS A/C FULL	A/C=	26 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	172.06 DELAY = 0.07
ALL GATES FOR THIS A/C FULL	A/C=	22 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	174.82 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	27 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	180.26 DELAY = 8.27
SUBTRACE POELAY N= 27 DELAY=	8.27				
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	188.26 DELAY = 5.27
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	188.26 DELAY = 3.36
ALL GATES FOR THIS A/C FULL	A/C=	27 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	188.26 DELAY = 1.26
ALL GATES FOR THIS A/C FULL	A/C=	27 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	189.36 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	189.36 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	189.47 DELAY = 0.11

FIGURE 4-10a (Cont.)

ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	190.15 DELAY = 0.68
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	190.83 DELAY = 0.68
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	197.30 DELAY = 6.46
SUBTRACE POELAY N= 28 DELAY=		6.46			
ALL GATES FOR THIS A/C FULL	A/C=	29 A/C SIZE =	2PREFERRED GATE =	7NEXT GATE VACANT AT	194.66 DELAY = 0.67
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	197.30 DELAY = 2.31
ALL GATES FOR THIS A/C FULL	A/C=	28 A/C SIZE =	2PREFERRED GATE =	5NEXT GATE VACANT AT	198.40 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	198.40 DELAY = 1.05
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	198.40 DELAY = 0.29
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	199.09 DELAY = 0.69
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	199.19 DELAY = 0.10
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	227.22 DELAY = 28.03
SUBTRACE POELAY N= 30 DELAY=		28.03			
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	227.22 DELAY = 24.08
SUBTRACE POELAY N= 31 DELAY=		24.08			
ALL GATES FOR THIS A/C FULL	A/C=	30 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	228.32 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	228.32 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	228.43 DELAY = 0.11
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	229.07 DELAY = 0.64
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	229.11 DELAY = 0.04
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	229.69 DELAY = 0.58
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	229.79 DELAY = 0.10
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	230.21 DELAY = 0.41
ALL GATES FOR THIS A/C FULL	A/C=	31 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	230.79 DELAY = 0.59
ALL GATES FOR THIS A/C FULL	A/C=	36 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	232.18 DELAY = 0.19
ALL GATES FOR THIS A/C FULL	A/C=	37 A/C SIZE =	2PREFERRED GATE =	1NEXT GATE VACANT AT	235.35 DELAY = 0.36
ALL GATES FOR THIS A/C FULL	A/C=	38 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	240.17 DELAY = 0.18
ALL GATES FOR THIS A/C FULL	A/C=	38 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	270.37 DELAY = 28.47
SUBTRACE POELAY N= 38 DELAY=		28.47			
ALL GATES FOR THIS A/C FULL	A/C=	39 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	270.37 DELAY = 28.39
SUBTRACE POELAY N= 39 DELAY=		28.39			
ALL GATES FOR THIS A/C FULL	A/C=	39 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	270.37 DELAY = 22.14
SUBTRACE POELAY N= 39 DELAY=		22.14			
ALL GATES FOR THIS A/C FULL	A/C=	42 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	270.37 DELAY = 16.38
SUBTRACE POELAY N= 42 DELAY=		16.38			
ALL GATES FOR THIS A/C FULL	A/C=	43 A/C SIZE =	2PREFERRED GATE =	10NEXT GATE VACANT AT	277.95 DELAY = 22.96
SUBTRACE POELAY N= 43 DELAY=		22.96			
ALL GATES FOR THIS A/C FULL	A/C=	42 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	270.37 DELAY = 14.47
SUBTRACE POELAY N= 42 DELAY=		14.47			
ALL GATES FOR THIS A/C FULL	A/C=	44 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	270.37 DELAY = 14.38
SUBTRACE POELAY N= 44 DELAY=		14.38			
ALL GATES FOR THIS A/C FULL	A/C=	44 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	270.37 DELAY = 12.47
SUBTRACE POELAY N= 44 DELAY=		12.47			
ALL GATES FOR THIS A/C FULL	A/C=	43 A/C SIZE =	2PREFERRED GATE =	10NEXT GATE VACANT AT	277.95 DELAY = 19.59
SUBTRACE POELAY N= 43 DELAY=		19.59			
ALL GATES FOR THIS A/C FULL	A/C=	45 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	270.37 DELAY = 0.38
ALL GATES FOR THIS A/C FULL	A/C=	38 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	271.47 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	39 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	271.47 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	42 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	271.47 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	44 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	271.47 DELAY = 1.10
ALL GATES FOR THIS A/C FULL	A/C=	39 A/C SIZE =	1PREFERRED GATE =	2NEXT GATE VACANT AT	271.58 DELAY = 0.11
ALL GATES FOR THIS A/C FULL	A/C=	42 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	271.58 DELAY = 0.11
ALL GATES FOR THIS A/C FULL	A/C=	44 A/C SIZE =	2PREFERRED GATE =	3NEXT GATE VACANT AT	271.58 DELAY = 0.11

FIGURE 4-10a (Cont.)

[illegible]

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 1. 0. 0 TO 2. 0. 0

RMY NO.	TOTAL	ARRIVAL			A	TOUCH-AND-GO			A	TOTAL			DEPARTURE		
		D	C	B		D	C	B		D	C	B	D	C	B
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	4	0.0	0.0
TOTAL	14	0.21	0.79	0.0	0.0	0	0.0	0.0	0.0	4	0.0	0.0	4	0.0	0.0

D			C			B			A			TOTAL		
GRAND TOTAL FLOW	3	15	0	0	0	18								

	TOTAL	ON GATE			A	TOTAL			D	OFF GATE			A
		D	C	B		D	C	B		D	C	B	
GA	13	0.23	0.77	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0	0.0	0.0
TOTAL	13	0.23	0.77	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0	0.0	0.0

	TOTAL	TAXI-IN			A	TOTAL			D	TAXI-OUT			A
		D	C	B		D	C	B		D	C	B	
GA	14	0.21	0.79	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0	0.0	0.0
TOTAL	14	0.21	0.79	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL			A	TOTAL			D	DEPARTURE			A
	D	C	B		D	C	B		D	C	B	
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.44	0.0
2	0.73	0.29
WEIGHTED AVERAGE	0.59	0.29

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
2.95 0.05	0.18 0.23	0.0 0.21

ARRIVAL AIRFIELD DELAY = 3.95 DEPARTURE AIRFIELD DELAY = 0.56

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.63	0.0
2	7.42	8.32
WEIGHTED AVERAGE	8.02	8.32

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

WAY NO.	TOTAL	ARRIVAL			A.	TOTAL			TOUCH-AND-GO			A	TOTAL			DEPARTURE		
		D	C	B		D	C	B	D	C	B		D	C	B	A		
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0	0.0	0.0	
TOTAL	13	0.31	0.69	0.0	0.0	0	0.0	0.0	0.0	0.0	10	0.30	0.70	0.0	0.0	0.0	0.0	

D			C	B	A	TOTAL
GRAND TOTAL FLOW	7	16	0	0	23	

	ON GATE			A	TOTAL			OFF GATE			A
	D	C	B		D	C	B	D	C	B	
GA	11	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0	0.0
TOTAL	11	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0	0.0

	TAXI-IN			A	TOTAL			TAXI-OUT			A
	D	C	B		D	C	B	D	C	B	
TOTAL	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0	0.0

INTERSECTION LINK NO.	ARRIVAL			A	TOTAL			DEPARTURE			A
	D	C	B		D	C	B	D	C	B	
132	2	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
133	2	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 2.0.0 TO 3.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.19	0.0
2	0.60	0.38
WEIGHTED AVERAGE	0.41	0.38

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
9.63 0.06	0.37 0.39	0.0 0.15
ARRIVAL AIRFIELD DELAY = 10.79	DEPARTURE AIRFIELD DELAY = 0.60	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 2.0.0 TO 3.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	11.65	0.0
2	11.03	8.36
WEIGHTED AVERAGE	11.31	8.36

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RBY NO.	TOTAL		ARRIVAL		A.	TOUCH-AND-GO			TOTAL	DEPARTURE			
	D	C	D	C		B	A	D		C	B	A	
1	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0
2	6	0.17	0.83	0.0	0.0	0	0.0	0.0	0.0	9	0.22	0.78	0.0
TOTAL	11	0.18	0.82	0.0	0.0	0	0.0	0.0	0.0	9	0.22	0.78	0.0

D				A				TOTAL			
C				B				A			
4	16	0	0	0	20						
GRAND TOTAL FLOW											

	TOTAL	ON GATE			A	TOTAL			A	OFF GATE			A
		D	C	B		D	C	B		D	C	B	
	10	0.20	0.80	0.0	0.0	11	0.27	0.73	0.0	0.0			
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0			
TOTAL	10	0.20	0.80	0.0	0.0	11	0.27	0.73	0.0	0.0			

	TOTAL	TAXI-IN			A	TOTAL			A	TAXI-OUT			A
		D	C	B		D	C	B		D	C	B	
	11	0.18	0.82	0.0	0.0	11	0.27	0.73	0.0	0.0			

INTERSECTION LINK NO.	ARRIVAL				TOTAL	DEPARTURE			
	D	C	B	A		D	C	B	A
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0
133	1	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0
TOTAL	4	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.93	0.0
2	0.28	0.32
WEIGHTED AVERAGE	0.58	0.32

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL	ARRIVAL CROSSING TAXI-IN	DEPARTURE CROSSING TAXI-OUT
10.49	0.07	0.33
	0.70	0.0
ARRIVAL AIRFIELD DELAY = 12.10	DEPARTURE AIRFIELD DELAY = 0.55	0.17

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	18.30	0.0
2	13.55	8.89
WEIGHTED AVERAGE	15.71	8.89

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 4. 0. 0 TO 5. 0. 0

RWY NO.	TOTAL	ARRIVAL			A.	TOUCH-AND-GO			A	TOTAL			DEPARTURE		
		D	C	B		D	C	B		D	C	B	A		
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
2	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	13	0.15	0.85	0.0	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	13	0.15	0.85	0.0	0.0	0.0

D C B A TOTAL

GRAND TOTAL FLOW 5 20 0 0 25

	TOTAL	ON GATE			A	TOTAL			A	OFF GATE		
		D	C	B		D	C	B		D	C	B
GA	11	0.18	0.82	0.0	0.0	10	0.20	0.80	0.0	0.0	0.0	0.0
TOTAL	11	0.18	0.82	0.0	0.0	10	0.20	0.80	0.0	0.0	0.0	0.0

	TOTAL	TAXI-IN			A	TOTAL			A	TAXI-OUT		
		D	C	B		D	C	B		D	C	B
12	0.25	0.75	0.0	0.0	0.0	10	0.20	0.80	0.0	0.0	0.0	0.0

INTERSECTION
LINK NO.

ARRIVAL

DEPARTURE

INTERSECTION LINK NO.	TOTAL	ARRIVAL			A	TOTAL			A	DEPARTURE		
		D	C	B		D	C	B		D	C	B
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.11	0.0
2	0.30	0.59
WEIGHTED AVERAGE	0.77	0.59

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
16.41 0.08	0.91 0.47	0.0 0.12
ARRIVAL AIRFIELD DELAY = 18.56	DEPARTURE AIRFIELD DELAY = 0.79	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 4. 0. 0 TO 5. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	18.41	0.0
2	14.59	8.71
WEIGHTED AVERAGE	16.82	8.71

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

Rwy NO.	TOTAL	ARRIVAL		A.	TOTAL		TOUCH-AND-GO			DEPARTURE	
		D	C		D	C	D	C	B	D	C
1	6	0.50	0.50	0.0	0	0.0	0.0	0.0	0.0	0	0.0
2	9	0.11	0.89	0.0	0	0.0	0.0	0.0	0.0	11	0.27
TOTAL	15	0.27	0.73	0.0	0	0.0	0.0	0.0	0.0	11	0.27

GRAND TOTAL FLOW		D	C	B	A	TOTAL
7		19	0	0	0	26

ON GATE		OFF GATE	
TOTAL	D C B A	TOTAL	D C B A
12	0.25 0.75 0.0 0.0	12	0.25 0.75 0.0 0.0
GA	0 0.0 0.0 0.0	0	0.0 0.0 0.0 0.0
TOTAL	12 0.25 0.75 0.0 0.0	12	0.25 0.75 0.0 0.0

TAXI-IN		TAXI-OUT	
TOTAL	D C B A	TOTAL	D C B A
15	0.27 0.73 0.0 0.0	12	0.25 0.75 0.0 0.0

INTERSECTION LINK NO.	ARRIVAL		DEPARTURE	
	D	C	D	C
132	3	0.33	0.67	0.0
133	2	1.00	0.0	0.0
TOTAL	5	0.60	0.40	0.0

FIGURE 4-10a (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.19	0.0
2	0.73	0.39
WEIGHTED AVERAGE	0.51	0.39

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
13.31 0.04	0.28 0.44	0.0 0.17
ARRIVAL AIRFIELD DELAY = 14.55	DEPARTURE AIRFIELD DELAY = 0.61	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	14.77	0.0
2	12.52	8.67
WEIGHTED AVERAGE	13.42	8.67

FIGURE 4-10a (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
1	0.0	0.4556
2	0.0	0.4018
3	0.0	0.2824
4	0.0	0.3024
5	0.0	0.2060
6	0.0	0.2826
7	0.0	0.2514
8	0.0	0.4828
9	0.0	0.4954
10	0.0	0.1092
21	0.9516	0.0
22	2.4973	0.0
23	0.2380	0.0
24	0.3082	0.0
25	0.4110	0.0
101	0.0727	0.0
102	0.1028	0.0
103	0.3393	0.0
104	0.4737	0.0
105	9.4760	0.0
106	4.6042	0.1634
107	2.4607	0.5846
108	0.9991	0.8739
109	0.4778	0.6318
110	1.8594	0.5350
111	0.4254	1.5069
112	0.5931	0.7841
113	0.1412	2.0315
114	0.0	1.2988
128	0.8058	0.0
129	0.4821	0.0
130	0.1502	0.0
131	0.0775	0.0
132	7.1469	0.0
133	5.4423	0.0
134	0.1164	0.0

FIGURE 4-10a (Cont.)

AIRPORT DELAY SIMULATION MODEL--VERSION IIO

INPUT DATA

EXAMPLE 1

NUMBER OF RANDOM NUMBER SEEDS
10

RANDOM NUMBER SEEDS
2001 2002 2003 2004 2005 2006 2007 2008 2009 2000

START TIME AND FINISH TIME
1: 0 6: 0

PRINT OPTIONS F F T T F F F F F

NUMBER OF RUNWAYS
2

RUNWAY NAMES
28R 28L

RUNWAY END LINK NUMBERS
0 126

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM

2 132
2 133

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
8 2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1 39.00 5.00
2 39.00 5.00
3 0.0 0.0
4 0.0 0.0

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1 25.00 2.00
2 25.00 2.00
3 0.0 0.0
4 0.0 0.0

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)

1 35.00 10.00
2 21.00 5.00
3 0.0 0.0
4 0.0 0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)

1 140.00 5.00
2 130.00 5.00
3 0.0 0.0
4 0.0 0.0

MODEL RUN FOR EXAMPLE 1 - REDUCED GATE OCCUPANCY TIME
FIGURE 4-10b

LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)

1	1	8.00
1	2	8.00
1	3	0.0
1	4	0.0
2	1	8.00
2	2	8.00
2	3	0.0
2	4	0.0

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)

CLASS 1 R/W	1	
128.	0.40	129. 1.00
CLASS 2 R/W	1	
128.	0.70	129. 1.00
CLASS 3 R/W	1	
0.		
CLASS 4 R/W	1	
0.		
CLASS 1 R/W	2	
101.	1.00	
CLASS 2 R/W	2	
101.	1.00	
CLASS 3 R/W	2	
0.		
CLASS 4 R/W	2	
0.		

NUMBER OF EXITS
3

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)

128	6000.0	129	8000.0	101	6000.0
-----	--------	-----	--------	-----	--------

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)

CLASS 1	1000.0	12.00	2000.0	21.00	3000.0	29.00	4000.0	38.00	5000.0	47.00
6000.0	56.00	7000.0	65.00	8000.0	73.00	9000.0	82.00			
CLASS 2	1000.0	12.00	2000.0	21.00	3000.0	29.00	4000.0	38.00	5000.0	47.00
6000.0	56.00	7000.0	65.00	8000.0	73.00	9000.0	82.00			
CLASS 3	0.0									
CLASS 4	0.0									

NUMBER OF HOLDING AREAS
10

HOLDING AREA NUMBERS

21	22	23	24	25	26	27	28	29	30
----	----	----	----	----	----	----	----	----	----

NUMBER OF G/A HOLDING AREAS

0

G/A HOLDING AREA NUMBERS

0

TAXIING SPEEDS IN MPH

5.00	10.00	15.00	20.00	25.00	30.00
------	-------	-------	-------	-------	-------

FIGURE 4-10b (Cont.)

TAXIWAY LINK DATA LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY ROUTE NO.
1	1	1.10	7	0
2	1	1.10	7	0
3	1	1.10	7	0
4	1	1.10	7	0
5	1	1.10	7	0
6	1	1.10	7	0
7	1	1.10	7	0
8	1	1.10	7	0
9	1	1.10	7	0
10	1	1.10	7	0
21	1	0.10	7	0
22	1	0.10	7	0
23	1	0.10	7	0
24	1	0.10	7	0
25	1	0.10	7	0
26	1	0.10	7	0
27	1	0.10	7	0
28	1	0.10	7	0
29	1	0.10	7	0
30	1	0.10	7	0
101	0	500.00	5	0
102	0	300.00	4	0
103	0	300.00	3	0
104	0	300.00	2	0
105	0	300.00	2	0
106	0	300.00	1	0
107	0	300.00	1	0
108	0	300.00	1	0
109	0	300.00	1	0
110	0	300.00	1	0
111	0	300.00	1	0
112	0	300.00	1	0
113	0	300.00	1	0
114	0	300.00	1	0
115	0	300.00	1	0
116	0	300.00	2	0
117	0	300.00	2	0
118	0	300.00	3	0
119	0	300.00	3	0
120	0	300.00	3	0
121	0	300.00	3	0
122	0	300.00	3	0
123	0	300.00	3	0
124	0	300.00	3	0
125	0	300.00	2	0
126	0	300.00	2	0
128	0	900.00	5	0
129	0	900.00	5	0
130	0	400.00	5	0
131	0	1900.00	4	0
132	0	300.00	2	0
133	0	300.00	2	0
134	0	400.00	2	0
135	0	400.00	2	0

FIGURE 4-10b (Cont.)

PATH 29	101 102 103 104 29	LENGTH 5	LOCATION 331	1.066
PATH 30	101 102 103 104 30	LENGTH 5	LOCATION 336	1.066
PATH 31	101 102 103 104 31	LENGTH 19	LOCATION 341	10.430
PATH 32	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 18	LOCATION 360	9.748
PATH 33	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 114 9	LENGTH 17	LOCATION 378	9.066
PATH 34	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 113 8	LENGTH 16	LOCATION 395	8.384
PATH 35	128 132 134 101 102 103 104 105 106 107 108 109 110 111 112 7	LENGTH 15	LOCATION 411	7.702
PATH 36	128 132 134 101 102 103 104 105 106 107 108 109 110 111 6	LENGTH 14	LOCATION 426	7.020
PATH 37	128 132 134 101 102 103 104 105 106 107 108 109 110 111 5	LENGTH 13	LOCATION 440	6.339
PATH 38	128 132 134 101 102 103 104 105 106 107 108 109 110 111 4	LENGTH 12	LOCATION 453	5.657
PATH 39	128 132 134 101 102 103 104 105 106 107 108 109 110 111 3	LENGTH 11	LOCATION 465	4.975
PATH 40	128 132 134 101 102 103 104 105 106 107 108 109 110 111 2	LENGTH 10	LOCATION 476	4.293
PATH 41	128 132 134 101 102 103 104 105 106 107 108 109 110 111 1	LENGTH 8	LOCATION 486	2.270
PATH 42	128 132 134 101 102 103 104 21	LENGTH 8	LOCATION 494	2.270
PATH 43	128 132 134 101 102 103 104 22	LENGTH 8	LOCATION 502	2.270
PATH 44	128 132 134 101 102 103 104 23	LENGTH 8	LOCATION 510	2.270
PATH 45	128 132 134 101 102 103 104 24	LENGTH 8	LOCATION 518	2.270
PATH 46	128 132 134 101 102 103 104 25	LENGTH 8	LOCATION 526	2.270
PATH 47	128 132 134 101 102 103 104 26	LENGTH 8	LOCATION 534	2.270
PATH 48	128 132 134 101 102 103 104 27	LENGTH 8	LOCATION 542	2.270
PATH 49	128 132 134 101 102 103 104 28	LENGTH 8	LOCATION 550	2.270
PATH 50	128 132 134 101 102 103 104 29	LENGTH 8	LOCATION 558	2.270
PATH 51	128 132 134 101 102 103 104 30	LENGTH 20	LOCATION 566	11.464
PATH 52	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 19	LOCATION 586	10.782
PATH 53	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 114 9	LENGTH 18	LOCATION 605	10.100
PATH 54	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 113 8	LENGTH 17	LOCATION 623	9.418
PATH 55	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 112 7	LENGTH 16	LOCATION 640	8.736
PATH 56	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 6	LENGTH 15	LOCATION 656	8.055
PATH 57	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 5	LENGTH 14	LOCATION 671	7.373
PATH 58	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 4	LENGTH 13	LOCATION 685	6.691
PATH 59	129 133 135 130 131 102 103 104 105 106 107 108 109 110 111 3	LENGTH 12		

FIGURE 4-10b (Cont.)

PATH 59	129 133 135 130 131 102 103 104 105	LENGTH 12	LOCATION 698	6.009
PATH 60	129 133 135 130 131 102 103 104 105	LENGTH 11	LOCATION 710	5.327
PATH 61	129 133 135 130 131 102 103 104 105	LENGTH 9	LOCATION 721	3.305
PATH 62	129 133 135 130 131 102 103 104 21	LENGTH 9	LOCATION 730	3.305
PATH 63	129 133 135 130 131 102 103 104 22	LENGTH 9	LOCATION 739	3.305
PATH 64	129 133 135 130 131 102 103 104 23	LENGTH 9	LOCATION 748	3.305
PATH 65	129 133 135 130 131 102 103 104 24	LENGTH 9	LOCATION 757	3.305
PATH 66	129 133 135 130 131 102 103 104 25	LENGTH 9	LOCATION 766	3.305
PATH 67	129 133 135 130 131 102 103 104 26	LENGTH 9	LOCATION 775	3.305
PATH 68	129 133 135 130 131 102 103 104 27	LENGTH 9	LOCATION 784	3.305
PATH 69	129 133 135 130 131 102 103 104 28	LENGTH 9	LOCATION 793	3.305
PATH 70	129 133 135 130 131 102 103 104 29	LENGTH 9	LOCATION 802	3.305
PATH 71	129 133 135 130 131 102 103 104 30	LENGTH 4	LOCATION 811	2.223
PATH 72	21 105 106 1	LENGTH 5	LOCATION 815	2.905
PATH 73	21 105 106 107 2	LENGTH 6	LOCATION 820	3.586
PATH 74	21 105 106 107 108 3	LENGTH 7	LOCATION 826	4.258
PATH 75	21 105 106 107 108 109 4	LENGTH 8	LOCATION 833	4.950
PATH 76	21 105 106 107 108 109 110 5	LENGTH 9	LOCATION 841	5.632
PATH 77	21 105 106 107 108 109 110 111 6	LENGTH 10	LOCATION 850	6.314
PATH 78	21 105 106 107 108 109 110 111 112 7	LENGTH 11	LOCATION 860	6.995
PATH 79	21 105 106 107 108 109 110 111 112 113 8	LENGTH 12	LOCATION 871	7.677
PATH 80	21 105 106 107 108 109 110 111 112 113 114 9	LENGTH 13	LOCATION 883	8.359
PATH 81	21 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 3	LOCATION 896	1.882
PATH 82	22 106 1	LENGTH 4	LOCATION 899	2.564
PATH 83	22 106 107 2	LENGTH 5	LOCATION 903	3.245
PATH 84	22 106 107 108 3	LENGTH 6	LOCATION 908	3.927
PATH 85	22 106 107 108 109 4	LENGTH 7	LOCATION 914	4.609
PATH 86	22 106 107 108 109 110 5	LENGTH 8	LOCATION 921	5.291
PATH 87	22 106 107 108 109 110 111 6	LENGTH 9	LOCATION 929	5.973
PATH 88	22 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 938	6.655
PATH 89	22 106 107 108 109 110 111 112 113 8	LENGTH 8		

FIGURE 4-10b (Cont.)

PATH 89	22 106 107 108 109 110 111 112 113 114	9	LENGTH 11	LOCATION 948	7.336
PATH 90	22 106 107 108 109 110 111 112 113 114 115	10	LENGTH 12	LOCATION 959	8.018
PATH 91	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 4	LOCATION 971	2.223
PATH 92	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 5	LOCATION 975	2.905
PATH 93	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 6	LOCATION 980	3.586
PATH 94	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 7	LOCATION 986	4.268
PATH 95	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 8	LOCATION 993	4.950
PATH 96	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 9	LOCATION 1001	5.632
PATH 97	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 10	LOCATION 1010	6.314
PATH 98	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 11	LOCATION 1020	6.995
PATH 99	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 12	LOCATION 1031	7.677
PATH 100	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 13	LOCATION 1043	8.359
PATH 101	23 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 4	LOCATION 1056	2.223
PATH 102	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 5	LOCATION 1060	2.905
PATH 103	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 6	LOCATION 1065	3.586
PATH 104	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 7	LOCATION 1071	4.268
PATH 105	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 8	LOCATION 1078	4.950
PATH 106	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 9	LOCATION 1086	5.632
PATH 107	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 10	LOCATION 1095	6.314
PATH 108	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 11	LOCATION 1105	6.995
PATH 109	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 12	LOCATION 1116	7.677
PATH 110	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 13	LOCATION 1128	8.359
PATH 111	24 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 4	LOCATION 1141	2.223
PATH 112	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 5	LOCATION 1145	2.905
PATH 113	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 6	LOCATION 1150	3.586
PATH 114	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 7	LOCATION 1156	4.268
PATH 115	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 8	LOCATION 1163	4.950
PATH 116	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 9	LOCATION 1171	5.632
PATH 117	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 10	LOCATION 1180	6.314
PATH 118	25 105 106 107 108 109 110 111 112 113 114 115	10	LENGTH 11	LOCATION 1190	6.995

FIGURE 4-10b (Cont.)

PATH 119	25 105 106 107 108 109 110 111 112 113 114	LENGTH 12	LOCATION 1201	7.677
PATH 120	25 105 106 107 108 109 110 111 112 113 114	LENGTH 9	LOCATION 1213	8.359
PATH 121	25 105 106 107 108 109 110 111 112 113 114	LENGTH 13	LOCATION 1226	2.223
PATH 122	26 105 106 1	LENGTH 4	LOCATION 1230	2.905
PATH 123	26 105 106 107 2	LENGTH 5	LOCATION 1235	3.586
PATH 124	26 105 106 107 108 3	LENGTH 6	LOCATION 1241	4.268
PATH 125	26 105 106 107 108 109 4	LENGTH 7	LOCATION 1248	4.950
PATH 126	26 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1256	5.632
PATH 127	26 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1265	6.314
PATH 128	26 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1275	6.995
PATH 129	26 105 106 107 108 109 110 111 112 113 8	LENGTH 11	LOCATION 1286	7.677
PATH 130	26 105 106 107 108 109 110 111 112 113 114 9	LENGTH 12	LOCATION 1298	8.359
PATH 131	26 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 13	LOCATION 1311	2.223
PATH 132	27 105 106 1	LENGTH 4	LOCATION 1315	2.905
PATH 133	27 105 106 107 2	LENGTH 5	LOCATION 1320	3.586
PATH 134	27 105 106 107 108 3	LENGTH 6	LOCATION 1326	4.268
PATH 135	27 105 106 107 108 109 4	LENGTH 7	LOCATION 1333	4.950
PATH 136	27 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1341	5.632
PATH 137	27 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1350	6.314
PATH 138	27 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1360	6.995
PATH 139	27 105 106 107 108 109 110 111 112 113 8	LENGTH 11	LOCATION 1371	7.677
PATH 140	27 105 106 107 108 109 110 111 112 113 114 9	LENGTH 12	LOCATION 1383	8.359
PATH 141	27 105 106 107 108 109 110 111 112 113 114 115 10	LENGTH 13	LOCATION 1396	2.223
PATH 142	28 105 106 1	LENGTH 4	LOCATION 1400	2.905
PATH 143	28 105 106 107 2	LENGTH 5	LOCATION 1405	3.586
PATH 144	28 105 106 107 108 3	LENGTH 6	LOCATION 1411	4.268
PATH 145	28 105 106 107 108 109 4	LENGTH 7	LOCATION 1418	4.950
PATH 146	28 105 106 107 108 109 110 5	LENGTH 8	LOCATION 1426	5.632
PATH 147	28 105 106 107 108 109 110 111 6	LENGTH 9	LOCATION 1435	6.314
PATH 148	28 105 106 107 108 109 110 111 112 7	LENGTH 10	LOCATION 1445	6.995
PATH 149	28 105 106 107 108 109 110 111 112 113 114 115 16	LENGTH 11		

FIGURE 4-10b (Cont.)

TAXIWAY ONE-WAY PATHS
LINKS 0

NUMBER OF AIRLINES
3

AIRLINE CODES
AA TWA UA

AIRLINE GATES
AA 1 2 3 4 5
TWA 6 7 8
UA 9 10

A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)
0.0

A/C SEPARATIONS
128 SEPARATION VALUES IN 4 SETS OF 32, ARRIVAL / ARRIVAL, DEPARTURE / ARRIVAL, DEPARTURE / DEPARTURE AND ARRIVAL / DEPARTURE
EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION
THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y
THERE ARE 4 A/C CLASSES -- 1 - D CLASS
2 - C CLASS
3 - B CLASS
4 - A CLASS

THE ORDER OF SETS OF (X,Y) IS --
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

LEAD A/C RUNWAY		1		2		3		4		5		6		7		8		9		10	
128 SEPARATION VALUES IN 4 SETS OF 32, A/A (N.MILES), D/A (N.MILES), D/D (MINUTES) AND A/D (MINUTES)		1		2		3		4		5		6		7		8		9		10	
4.00	0.50	5.00	0.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.00	0.50	3.00	0.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00	0.25	2.00	0.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.00	0.25	2.00	0.25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.25	0.15	1.25	0.15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

[illegible]

A/C SCHEDULE DATA A/C NO.	AIRLINE	GATE	FLT. TYPE	CLASS	ARRIVE	DEPART	SERV. TIME	ARR. RHY	DEP. RHY
1	AA	3	3	2	1:00	1:10	11.00	2	2
2	AA	2	3	1	1:2	1:3	34.41	1	2
3	TWA	8	3	2	1:3	1:4	12.63	1	2
4	UA	9	3	2	1:3	1:4	23.26	2	2
5	AA	3	3	2	1:15	1:15	15.84	2	2
6	UA	10	3	2	1:15	1:16	21.73	1	2
7	AA	3	3	2	1:16	1:17	20.42	2	2
8	AA	2	3	2	1:30	1:31	42.08	1	2
9	TWA	8	3	2	1:31	1:32	29.82	1	2
10	UA	9	3	2	1:31	1:32	30.13	2	2
11	TWA	6	3	1	1:32	1:33	37.94	2	2
12	AA	4	3	2	1:45	1:46	11.95	1	2
13	AA	5	3	2	1:45	1:46	26.81	2	2
14	UA	10	3	2	2:10	2:11	18.42	1	2
15	AA	2	3	1	2:3	2:4	35.55	1	2
16	TWA	7	3	2	2:3	2:4	17.99	2	2
17	AA	5	3	2	2:14	2:15	19.31	2	2
18	TWA	6	3	1	2:16	2:17	51.18	2	2
19	AA	3	3	2	2:17	2:18	19.34	2	2
20	AA	4	3	2	2:30	2:31	15.16	1	2
21	AA	2	3	1	2:31	2:32	52.62	1	2
22	TWA	7	3	2	2:31	2:32	19.65	2	2
23	UA	10	3	2	2:33	2:34	19.16	2	2
24	AA	5	3	2	2:47	2:48	20.97	2	2
25	AA	2	3	1	2:47	2:48	34.65	1	2
26	AA	1	3	2	2:52	2:53	27.58	2	2
27	AA	1	3	2	3:0	3:1	23.24	1	2
28	AA	5	3	2	3:3	3:4	17.91	2	2
29	TWA	7	3	2	3:14	3:15	14.84	2	2
30	AA	2	3	1	3:15	3:16	23.80	1	2
31	AA	1	3	2	3:16	3:17	14.08	1	2
32	TWA	8	3	2	3:16	3:17	18.49	2	2
33	UA	9	3	2	3:16	3:17	29.37	1	2
34	UA	10	3	2	3:45	3:46	25.60	2	2
35	TWA	6	3	1	3:45	3:46	41.34	2	2
36	AA	1	3	2	3:52	3:53	30.19	2	2
37	AA	3	3	2	3:55	3:56	11.91	2	2
38	AA	3	3	2	4:0	4:1	20.69	2	2
39	AA	2	3	1	4:2	4:3	15.05	1	2
40	TWA	8	3	2	4:3	4:4	25.53	1	2
41	UA	9	3	2	4:3	4:4	14.95	2	2
42	AA	3	3	2	4:14	4:15	28.16	2	2
43	UA	10	3	2	4:15	4:16	27.13	1	2
44	AA	3	3	2	4:16	4:17	27.00	2	2
45	AA	2	3	1	4:30	4:31	35.01	1	2
46	TWA	8	3	2	4:31	4:32	15.51	2	2
47	TWA	6	3	1	4:32	4:33	43.00	2	2
48	AA	4	3	2	4:45	4:46	27.11	1	2
49	AA	5	3	2	4:45	4:46	17.56	2	2
50	UA	10	3	2	5:10	5:11	25.24	1	2
51	AA	2	3	1	5:3	5:4	27.25	1	2
52	TWA	7	3	2	5:14	5:15	11.00	2	2
53	AA	5	3	2	5:14	5:15	12.13	2	2
54	TWA	6	3	1	5:16	5:17	32.71	2	2
55	AA	3	3	2	5:17	5:18	21.01	2	2
56	AA	4	3	2	5:30	5:31	23.21	1	2

FIGURE 4-10b (Cont.)

57	AA	2	3	1	5:31	5:32	27.41	1	2	99.38 DELAY = 6.44
58	TWA	7	3	2	5:31	5:32	31.00	2	2	99.38 DELAY = 4.53
59	UA	9	3	2	5:32	5:33	29.15	2	2	100.48 DELAY = 1.10
60	UA	10	3	2	5:33	5:34	14.22	1	2	163.57 DELAY = 12.58
61	AA	5	3	2	5:46	5:47	30.29	2	2	
62	AA	2	3	1	5:47	5:48	50.47	1	2	
63	AA	1	3	2	5:52	5:53	24.05	2	2	
64	AA	1	3	2	6:0	6:1	28.85	1	2	
65	UA	9	3	2	6:1	6:2	18.88	2	2	
66	AA	5	3	2	6:3	6:4	13.00	2	2	
67	TWA	7	3	2	6:14	6:15	23.21	2	2	
68	AA	2	3	1	6:15	6:16	42.24	1	2	
69	AA	1	3	2	6:16	6:17	20.48	1	2	
70	TWA	8	3	2	6:16	6:17	12.15	1	2	
71	UA	9	3	2	6:16	6:17	24.12	2	2	
72	UA	10	3	2	6:45	6:46	24.02	1	2	
73	TWA	6	3	1	6:45	6:46	18.17	2	2	
74	AA	1	3	2	6:52	6:53	18.68	2	2	
75	AA	3	3	2	6:55	6:56	19.30	1	2	
AIRCRAFT READ IN: 75										
ALL GATES FOR THIS A/C FULL A/C= 10 A/C SIZE = 2PREFERRED GATE = 9NEXT GATE VACANT AT 99.38 DELAY = 6.44										
SUBTRACE PDELAY N= 10 DELAY= 6.44										
ALL GATES FOR THIS A/C FULL A/C= 10 A/C SIZE = 2PREFERRED GATE = 9NEXT GATE VACANT AT 99.38 DELAY = 4.53										
ALL GATES FOR THIS A/C FULL A/C= 10 A/C SIZE = 2PREFERRED GATE = 9NEXT GATE VACANT AT 100.48 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 22 A/C SIZE = 2PREFERRED GATE = 7NEXT GATE VACANT AT 163.57 DELAY = 12.58										
SUBTRACE PDELAY N= 22 DELAY= 12.58										
ALL GATES FOR THIS A/C FULL A/C= 22 A/C SIZE = 2PREFERRED GATE = 7NEXT GATE VACANT AT 163.57 DELAY = 10.67										
SUBTRACE PDELAY N= 22 DELAY= 10.67										
ALL GATES FOR THIS A/C FULL A/C= 22 A/C SIZE = 2PREFERRED GATE = 7NEXT GATE VACANT AT 163.58 DELAY = 0.01										
ALL GATES FOR THIS A/C FULL A/C= 22 A/C SIZE = 2PREFERRED GATE = 7NEXT GATE VACANT AT 164.68 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 180.12 DELAY = 0.13										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 184.56 DELAY = 0.14										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 184.50 DELAY = 0.34										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 185.24 DELAY = 0.34										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 185.92 DELAY = 0.68										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 186.60 DELAY = 0.68										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 187.29 DELAY = 0.68										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 187.97 DELAY = 0.68										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 190.57 DELAY = 2.61										
ALL GATES FOR THIS A/C FULL A/C= 27 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 191.67 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 30 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 202.32 DELAY = 7.33										
SUBTRACE PDELAY N= 30 DELAY= 7.33										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 202.32 DELAY = 5.03										
ALL GATES FOR THIS A/C FULL A/C= 30 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 202.32 DELAY = 2.84										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 1PREFERRED GATE = 1NEXT GATE VACANT AT 202.32 DELAY = 1.91										
ALL GATES FOR THIS A/C FULL A/C= 30 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 203.42 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 203.42 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 203.65 DELAY = 0.23										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 204.12 DELAY = 0.47										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 204.22 DELAY = 0.10										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 204.80 DELAY = 0.58										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 205.48 DELAY = 0.68										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 217.00 DELAY = 11.51										
SUBTRACE PDELAY N= 31 DELAY= 11.51										
ALL GATES FOR THIS A/C FULL A/C= 31 A/C SIZE = 2PREFERRED GATE = 1NEXT GATE VACANT AT 218.10 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 39 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 242.24 DELAY = 0.25										
ALL GATES FOR THIS A/C FULL A/C= 39 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 250.47 DELAY = 3.78										
ALL GATES FOR THIS A/C FULL A/C= 39 A/C SIZE = 1PREFERRED GATE = 2NEXT GATE VACANT AT 251.57 DELAY = 1.10										
ALL GATES FOR THIS A/C FULL A/C= 42 A/C SIZE = 2PREFERRED GATE = 3NEXT GATE VACANT AT 259.65 DELAY = 5.66										
ALL GATES FOR THIS A/C FULL A/C= 42 A/C SIZE = 2PREFERRED GATE = 3NEXT GATE VACANT AT 259.65 DELAY = 3.75										
ALL GATES FOR THIS A/C FULL A/C= 44 A/C SIZE = 2PREFERRED GATE = 3NEXT GATE VACANT AT 259.65 DELAY = 3.66										
ALL GATES FOR THIS A/C FULL A/C= 44 A/C SIZE = 2PREFERRED GATE = 3NEXT GATE VACANT AT 259.65 DELAY = 1.75										

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 1. 0. 0 TO 2. 0. 0

RHY NO.	TOTAL	ARRIVAL			A	TOUCH-AND-GO			A	TOTAL			DEPARTURE		
		D	C	B		D	C	B		D	C	B			
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0
TOTAL	14	0.21	0.79	0.0	0.0	0	0.0	0.0	0.0	5	0.0	1.00	0.0	0.0	0.0

D			C			B			A			TOTAL		
GRAND TOTAL FLOW	3	16	0	0	19									

	TOTAL	ON GATE			A	TOTAL			D	OFF GATE			A
		D	C	B		D	C	B		D	C	B	
GA	13	0.23	0.77	0.0	0.0	7	0.14	0.86	0.0	0.0	0.0	0.0	0.0
TOTAL	13	0.23	0.77	0.0	0.0	7	0.14	0.86	0.0	0.0	0.0	0.0	0.0

INTERSECTION LINK NO.	TOTAL	TAXI-IN			A	TAXI-OUT			A
		D	C	B		D	C	B	
132	3	0.0	1.00	0.0	0.0	7	0.14	0.86	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 4. 0. 0 TO 5. 0. 0

LINK NO.	TOTAL	ARRIVAL			A.	TOTAL			TOUCH-AND-GO			DEPARTURE		
		D	C	B		D	C	B	D	C	B	D	C	B
1	7	0.29	0.71	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0
2	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	11	0.18	0.82
TOTAL	12	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	11	0.18	0.82

D			C			B			A			TOTAL		
GRAND TOTAL FLOW			5			18			0			23		

	TOTAL	ON GATE			A	TOTAL			OFF GATE			A
		D	C	B		D	C	B	D	C	B	
GA	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	12	0.25	0.75	0.0	0.0	10	0.20	0.80	0.0	0.0	0.0	0.0

	TOTAL	TAXI-IN			A	TOTAL			TAXI-OUT			A
		D	C	B		D	C	B	D	C	B	
12	0.25	0.75	0.0	0.0	0.0	10	0.20	0.80	0.0	0.0	0.0	0.0

INTERSECTION LINK NO.	TOTAL	ARRIVAL			A	TOTAL			DEPARTURE			A
		D	C	B		D	C	B	D	C	B	
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4	0.25	0.75	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 4.0.0 TO 5.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.02	0.0
2	0.30	0.50
WEIGHTED AVERAGE	0.72	0.50

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
2.73 0.05	0.70 0.31	0.0 0.19
ARRIVAL AIRFIELD DELAY = 4.47	DEPARTURE AIRFIELD DELAY = 0.73	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 4.0.0 TO 5.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	9.69	0.0
2	7.23	8.76
WEIGHTED AVERAGE	8.67	8.76

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

RWY NO.	TOTAL	ARRIVAL			A	TOUCH-AND-GO			A	TOTAL			DEPARTURE		
		D	C	B		D	C	B		D	C	B	D	C	B
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
2	9	0.11	0.89	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	10	0.30	0.70
TOTAL	15	0.27	0.73	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	10	0.30	0.70

D			B			A			TOTAL		
GRAND TOTAL FLOW	7	18	0	0	0	25					

	TOTAL	ON GATE			A	TOTAL			OFF GATE	TOTAL		
		D	C	B		D	C	B		D	C	B
GA	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0		
TOTAL	13	0.31	0.69	0.0	0.0	11	0.27	0.73	0.0	0.0		
TAXI-IN												
TOTAL	15	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0		
TAXI-OUT												
TOTAL	15	0.27	0.73	0.0	0.0	11	0.27	0.73	0.0	0.0		

INTERSECTION LINK NO.	ARRIVAL			A	TOTAL			DEPARTURE	TOTAL		
	D	C	B		D	C	B		D	C	B
132	3	0.33	0.67	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
133	1	1.00	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.24	0.0
2	0.78	0.57
WEIGHTED AVERAGE	0.56	0.57

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
1.64 0.03	0.45 0.29	0.0 0.15

ARRIVAL AIRFIELD DELAY = 2.94 DEPARTURE AIRFIELD DELAY = 0.75

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 5. 0. 0 TO 6. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.16	0.0
2	6.77	8.84
WEIGHTED AVERAGE	7.32	8.84

FIGURE 4-10b (Cont.)

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.44	0.0
2	0.74	0.33
WEIGHTED AVERAGE	0.59	0.33

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
0.56 0.05	0.30 0.36	0.0 0.18
ARRIVAL AIRFIELD DELAY = 1.81	DEPARTURE AIRFIELD DELAY = 0.56	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.36	0.0
2	6.59	8.38
WEIGHTED AVERAGE	7.48	8.38

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE FLOW RATES ***

TIME - FROM 2.0.0 TO 3.0.0

RUY NO.	TOTAL	ARRIVAL			TOTAL	TOUCH-AND-GO			TOTAL	DEPARTURE		
		D	C	B		D	C	B		D	C	B
1	6	0.50	0.50	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0
2	7	0.14	0.86	0.0	0.0	0	0.0	0.0	0.0	11	0.27	0.73
TOTAL	13	0.31	0.69	0.0	0.0	0	0.0	0.0	0.0	11	0.27	0.73

	D	C	B	A	TOTAL
GRAND TOTAL FLOW	7	17	0	0	24

	TOTAL	ON GATE			TOTAL	OFF GATE		
		D	C	B		D	C	B
GA	12	0.33	0.67	0.0	0.0	11	0.27	0.73
TOTAL	12	0.33	0.67	0.0	0.0	11	0.27	0.73

	TOTAL	TAXI-IN			TOTAL	TAXI-OUT		
		D	C	B		D	C	B
	13	0.31	0.69	0.0	0.0	11	0.27	0.73

INTERSECTION LINK NO.	TOTAL	ARRIVAL			TOTAL	DEPARTURE		
		D	C	B		D	C	B
132	2	0.0	1.00	0.0	0.0	0	0.0	0.0
133	2	1.00	0.0	0.0	0.0	0	0.0	0.0
TOTAL	4	0.50	0.50	0.0	0.0	0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.20	0.0
2	0.63	0.77
WEIGHTED AVERAGE	0.43	0.77

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
1.83 0.05	0.34 0.19	0.0 0.11
ARRIVAL AIRFIELD DELAY = 2.79	DEPARTURE AIRFIELD DELAY = 0.93	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	8.00	0.0
2	6.94	8.89
WEIGHTED AVERAGE	7.43	8.89

FIGURE 4-10b (Cont.)

EXAMPLE 1

AVERAGE FLOW RATES

TIME - FROM 3.0.0 TO 4.0.0

RVY NO.	TOTAL			ARRIVAL			A.	TOUCH-AND-GO			A	TOTAL			DEPARTURE		
	D	C	B	D	C	B		D	C	B		D	C	B	A		
1	5	0.20	0.80	0.0	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	
2	6	0.17	0.83	0.0	0.0	0	0.0	0.0	0.0	0.0	12	0.25	0.75	0.0	0.0	0.0	
TOTAL	11	0.18	0.82	0.0	0.0	0	0.0	0.0	0.0	0.0	12	0.25	0.75	0.0	0.0	0.0	

D C B A TOTAL

GRAND TOTAL FLOW 5 18 0 0 23

	TOTAL	ON GATE			A	OFF GATE			A
		D	C	B		TOTAL	D	C	
GA	10	0.20	0.80	0.0	0.0	12	0.17	0.83	0.0
TOTAL	10	0.20	0.80	0.0	0.0	12	0.17	0.83	0.0

	TOTAL	TAXI-IN			A	TAXI-OUT			A
		D	C	B		TOTAL	D	C	
11	0.18	0.82	0.0	0.0	0.0	12	0.17	0.83	0.0

INTERSECTION
LINK NO.

	TOTAL	ARRIVAL			A	DEPARTURE			A
		D	C	B		TOTAL	D	C	
132	3	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0
133	1	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0
TOTAL	4	0.0	1.00	0.0	0.0	0	0.0	0.0	0.0

FIGURE 4-10b (Cont.)

EXAMPLE 1

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 3.0.0 TO 4.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	1.00	0.0
2	0.29	0.46
WEIGHTED AVERAGE	0.61	0.46

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
2.16 0.04	0.61 0.35	0.0 0.20
ARRIVAL AIRFIELD DELAY = 3.53	DEPARTURE AIRFIELD DELAY = 0.71	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 3.0.0 TO 4.0.0

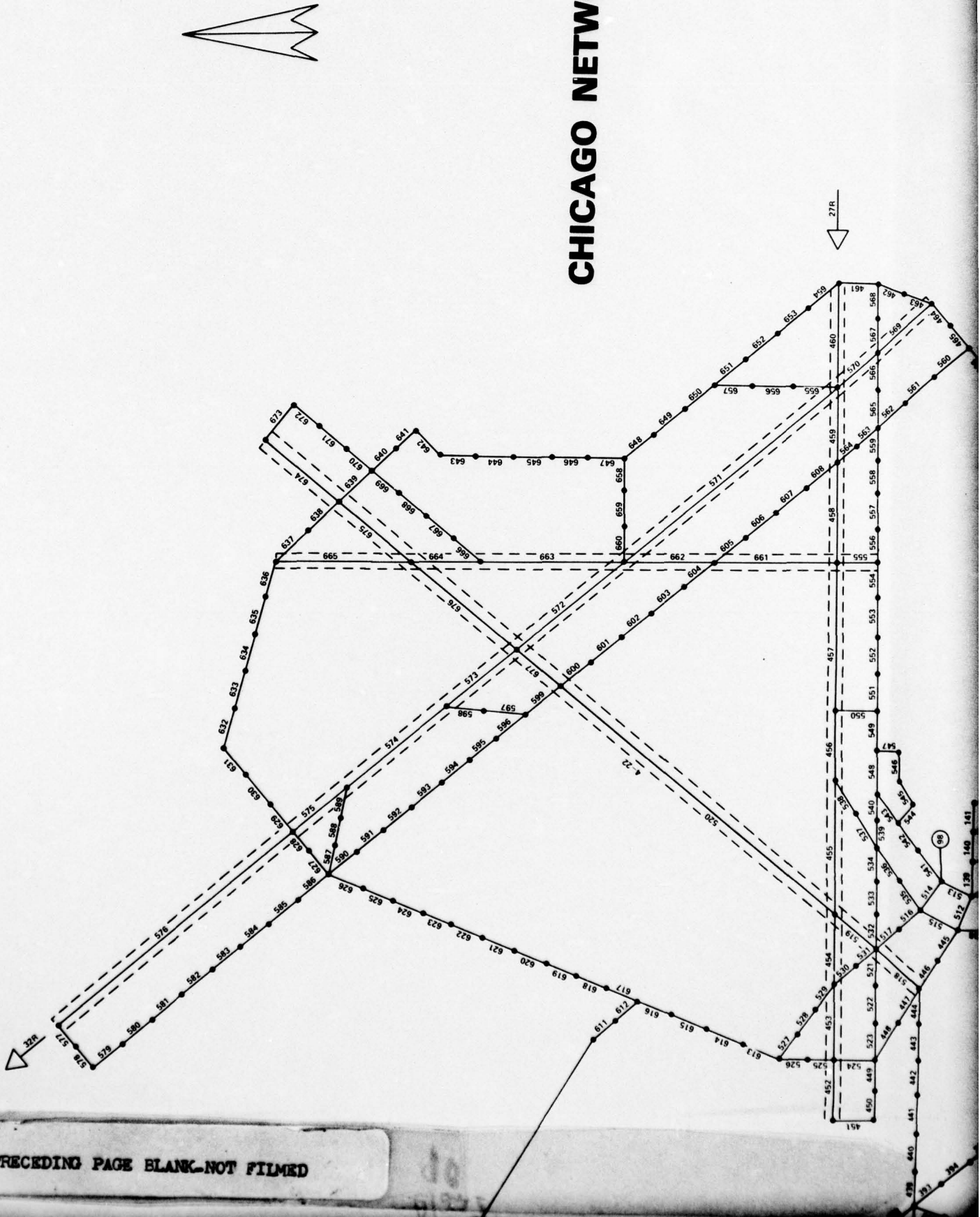
RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	10.13	0.0
2	7.09	0.89
WEIGHTED AVERAGE	8.67	0.89

FIGURE 4-10b (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
1	0.0	0.5462
2	0.0	0.0620
3	0.0	0.1385
4	0.0	0.1318
5	0.0	0.2722
6	0.0	0.1801
7	0.0	0.1213
8	0.0	0.3387
9	0.0	0.4935
10	0.0	0.1107
21	0.5961	0.0
22	1.3894	0.0
23	0.0702	0.0
101	0.0637	0.0
102	0.1225	0.0
103	0.5853	0.0
104	1.1546	0.0
105	6.0754	0.0
106	1.7886	1.1821
107	1.3863	0.8797
108	1.8680	0.6044
109	1.4163	1.0170
110	0.4547	0.8015
111	0.4828	0.9333
112	0.1776	1.2119
113	0.3584	1.1988
114	0.0	1.1748
128	0.3511	0.0
129	0.1486	0.0
130	0.1826	0.0
131	0.0775	0.0
132	7.1133	0.0
133	6.1480	0.0
134	0.4530	0.0

FIGURE 4-10b (Cont.)

CHICAGO NETWORK



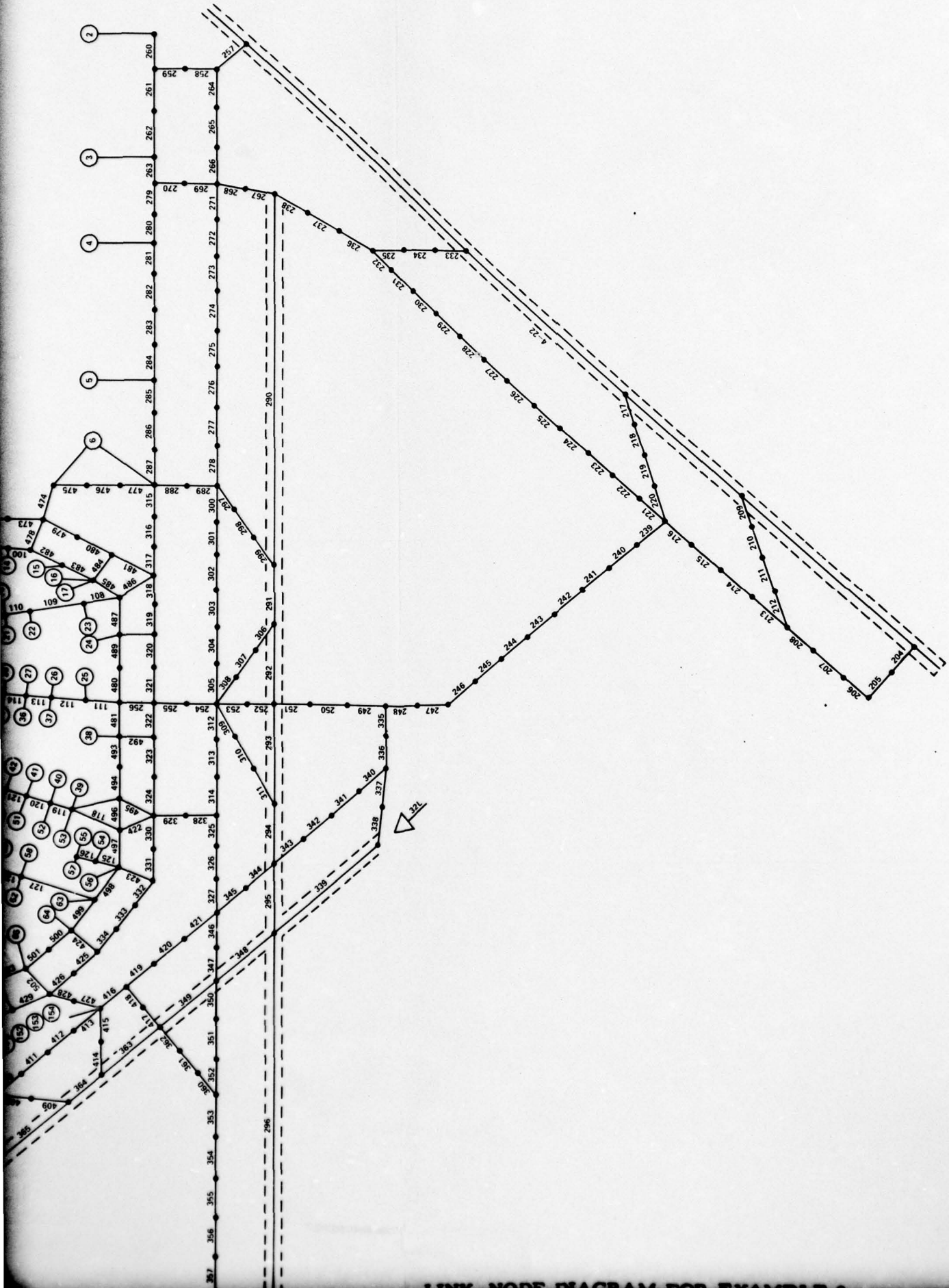
The diagram illustrates a complex water distribution network. It features a central vertical mainline with several lateral branches. The nodes are labeled with numbers, and the links are labeled with numbers indicating flow rates. A north arrow is located in the lower right quadrant of the diagram.

LINK-NODE DIAGRAM FOR E

FIGURE A.11

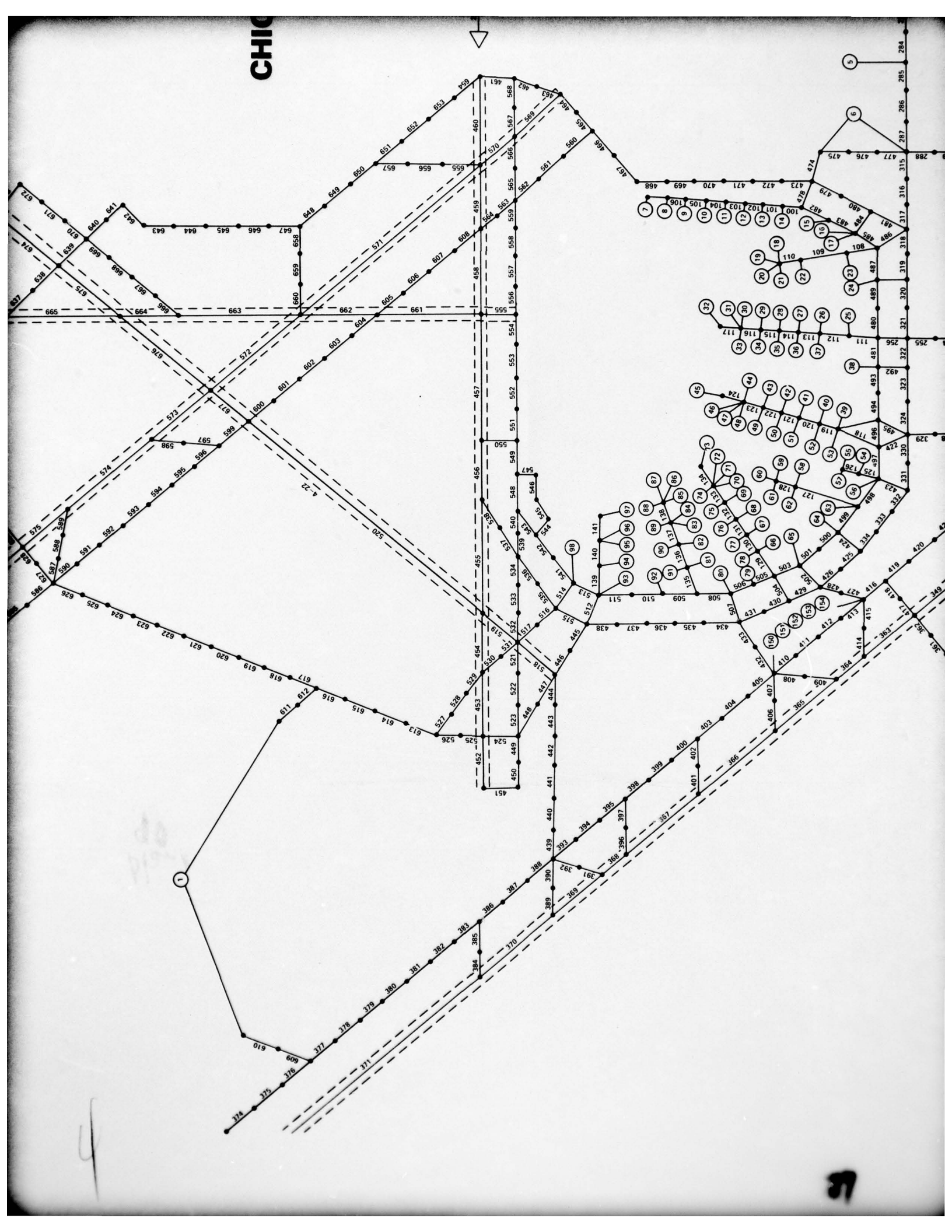
LINK-NODE DIAGRAM FOR E

3



LINK-NODE DIAGRAM FOR EXAMPLE 1

CHIC



AD-A036 354

FEDERAL AVIATION ADMINISTRATION WASHINGTON D C SYSTE--ETC F/G 1/5
MODEL USERS' MANUAL FOR AIRFIELD CAPACITY AND DELAY MODELS. B00--ETC(U)
NOV 76 C T BALL

UNCLASSIFIED

FAA-RD-76-128-BK-2

NL

2 of 2
ADA036354



END

DATE
FILMED
3 - 77

AIRPORT DELAY SIMULATION MODEL--VERSION IID

INPUT DATA

EXAMPLE 2

NUMBER OF RANDOM NUMBER SEEDS
10

RANDOM NUMBER SEEDS
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010

START TIME AND FINISH TIME
1: 0 4: 0

PRINT OPTIONS F F T F F F F F F

NUMBER OF RUNWAYS
4

RUNWAY NAMES
32L 27R 27L 32R

RUNWAY END LINK NUMBERS
0 0 257 464

RUNWAY NUMBERS AND THE LINKS WHICH CROSS THEM
1 0

DEPARTURE QUEUE LENGTH AND INTERARRIVAL GAP
8 2.00

A/C DEPARTURE RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1 35.00 5.00
2 30.00 5.00
3 29.00 3.00
4 26.00 2.00

TOUCH-AND-GO RUNWAY OCCUPANCY TIME IN SECONDS (A/C CLASS, MEAN, AND STD. DEV.)

1 72.00 7.00
2 72.00 7.00
3 23.10 3.00
4 21.60 2.00

GATE SERVICE TIME IN MINUTES (A/C CLASS, MEAN, STD. DEV.)

1 48.00 3.00
2 35.00 3.00
3 20.00 2.00
4 0.10 0.0

A/C APPROACH SPEED IN KNOTS (A/C CLASS, MEAN, STD. DEV.)

1 140.00 5.00
2 130.00 5.00
3 120.00 5.00
4 95.00 5.00

INPUT VALUES FOR EXAMPLE 2
(Obtained from Model Run)
FIGURE 4-12

LENGTHS OF COMMON APPROACH PATHS FROM OUTER MARKER TO THRESHOLD IN NAUTICAL MILES (RUNWAY NO., A/C CLASS, LENGTH)

1	1	6.00
1	2	6.00
1	3	6.00
1	4	2.00
2	1	5.00
2	2	5.00
2	3	2.00
2	4	2.00
3	1	5.00
3	2	5.00
3	3	2.00
3	4	2.00
4	1	6.00
4	2	6.00
4	3	6.00
4	4	2.00

RUNWAY EXIT SELECTION--USAGE PERCENTAGE BY EACH A/C CLASS AND BY EACH RUNWAY (EXIT LINK NO. VERSUS PROBABILITY)

CLASS 1 RWY 1	401.	0.53	391.	1.00
CLASS 2 RWY 1	405.	0.20	391.	1.00
CLASS 3 RWY 1	405.	1.00		
CLASS 4 RWY 1	405.	1.00		
CLASS 1 RWY 2	538.	0.17	519.	0.50
CLASS 2 RWY 2	538.	0.48	519.	0.90
CLASS 3 RWY 2	538.	1.00		
CLASS 4 RWY 2	538.	1.00		
CLASS 1 RWY 3	0.			
CLASS 2 RWY 3	0.			
CLASS 3 RWY 3	0.			
CLASS 4 RWY 3	0.			
CLASS 1 RWY 4	0.			
CLASS 2 RWY 4	0.			
CLASS 3 RWY 4	0.			
CLASS 4 RWY 4	0.			

NUMBER OF EXITS

6

DISTANCE IN FEET FROM THRESHOLD TO THE EXIT TAXIWAY (EXIT LINK NO. VERSUS DISTANCE)
 405 4460.0 401 5480.0 391 6800.0 538 4330.0 519 5480.0
 530 6080.0

FIGURE 4-12 (Cont.)

THE ARRIVAL RUNWAY OCCUPANCY TIME IN SECONDS BY A/C CLASS (DISTANCE IN FEET FROM THRESHOLD TO EXIT TAXIWAY VERSUS TIME)

CLASS 1	1000.0	12.00	2000.0	21.00	3000.0	29.00	4400.0	45.00	5500.0	55.00
	6000.0	62.00	6800.0	64.00	8000.0	73.00	9000.0	82.00		
CLASS 2	1000.0	12.00	2000.0	21.00	3000.0	29.00	4400.0	40.00	5500.0	50.00
	6000.0	62.00	6800.0	64.00	8000.0	73.00	9000.0	82.00		
CLASS 3	1000.0	12.00	2000.0	21.00	3000.0	29.00	4400.0	50.00	5500.0	55.00
	6000.0	56.00	6800.0	65.00	8000.0	73.00	9000.0	82.00		
CLASS 4	1000.0	12.00	2000.0	21.00	3000.0	29.00	4400.0	50.00	5500.0	55.00
	6000.0	56.00	6800.0	65.00	8000.0	73.00	9000.0	82.00		

NUMBER OF HOLDING AREAS

5

HOLDING AREA NUMBERS

150 151 152 153 154

NUMBER OF G/A HOLDING AREAS

1

G/A HOLDING AREA NUMBERS

1

TAXIING SPEEDS IN MPH

5.00 10.00 15.00 23.00 25.00 35.00

FIGURE 4-12 (Cont.)

TAXIWAY LINK DATA LINK NO.	LINK SIZE	LENGTH	SPEED CODE	ONE-WAY ROUTE NO.
1	1	3.10	7	0
2	1	3.10	7	0
3	1	3.10	7	0
4	1	3.10	7	0
5	1	3.10	7	0
6	1	3.10	7	0
7	2	2.40	7	1
8	2	2.40	7	1
9	2	2.40	7	1
10	1	3.10	7	1
11	2	2.40	7	1
12	1	3.10	7	1
13	2	2.40	7	1
14	1	3.10	7	1
15	1	3.10	7	1
16	1	3.10	7	1
17	2	2.40	7	1
18	1	3.10	7	1
19	2	2.40	7	1
20	2	2.40	7	1
21	2	2.40	7	1
22	2	2.40	7	1
23	2	2.40	7	1
24	1	3.10	7	1
25	1	3.10	7	1
26	2	2.40	7	1
27	1	3.10	7	1
28	2	2.40	7	1
29	2	2.40	7	1
30	2	2.40	7	1
31	2	2.40	7	1
32	2	2.40	7	1
33	2	2.40	7	1
34	2	2.40	7	1
35	2	2.40	7	1
36	1	3.10	7	1
37	1	3.10	7	1
38	1	3.10	7	1
39	1	3.10	7	1
40	1	3.10	7	1
41	1	3.10	7	1
42	2	2.40	7	1
43	2	2.40	7	1
44	2	2.40	7	1
45	2	2.40	7	1
46	1	3.10	7	1
47	2	2.40	7	1
48	2	2.40	7	1
49	2	2.40	7	1
50	1	3.10	7	1
51	2	2.40	7	1
52	1	3.10	7	1
53	2	2.40	7	1
54	2	2.40	7	1
55	2	2.40	7	1
56	2	2.40	7	1

FIGURE 4-12 (Cont.)

57	2	2.40	7	14
58	2	2.40	7	5
59	2	2.40	7	5
60	2	2.40	7	5
61	2	2.40	7	5
62	2	2.40	7	5
63	2	2.40	7	0
64	2	2.10	7	0
65	1	2.10	7	0
66	1	2.40	7	6
67	1	3.10	7	6
68	1	3.10	7	6
69	1	3.10	7	6
70	2	2.40	7	6
71	2	2.40	7	6
72	2	2.40	7	6
73	2	2.40	7	6
74	2	2.40	7	6
75	2	2.40	7	6
76	2	3.10	7	6
77	2	2.40	7	6
78	1	3.10	7	6
79	1	3.10	7	0
80	1	3.10	7	0
81	2	2.40	7	7
82	1	3.10	7	7
83	1	3.10	7	7
84	1	2.40	7	7
85	2	2.40	7	7
86	2	2.40	7	7
87	2	2.40	7	7
88	1	3.10	7	7
89	1	3.10	7	7
90	1	3.10	7	7
91	1	3.10	7	7
92	1	3.10	7	0
93	1	3.10	7	8
94	1	3.10	7	8
95	1	3.10	7	8
96	1	3.10	7	8
97	3	3.10	7	0
98	1	0.10	7	0
150	1	0.10	7	0
151	1	0.10	7	0
152	1	0.10	7	0
153	1	0.10	7	0
154	1	0.10	7	0
100	0	150.00	2	0
101	0	200.00	2	0
102	0	200.00	2	0
103	0	200.00	2	0
104	0	180.00	2	0
105	0	180.00	2	0
106	0	150.00	2	0
107	0	150.00	2	0
108	0	300.00	2	0
109	0	200.00	2	0
110	0	200.00	2	0
111	0	300.00	2	0
112	0	150.00	2	0

FIGURE 4-12 (Cont.)

.....

.....

471	0	300.00	3	0
472	0	300.00	3	0
473	0	300.00	3	0
474	0	300.00	4	0
475	0	310.00	4	0
476	0	310.00	4	0
477	0	310.00	4	0
478	0	300.00	4	0
479	0	340.00	4	0
480	0	340.00	4	0
481	0	410.00	4	0
482	0	300.00	4	0
483	0	300.00	4	0
484	0	300.00	4	0
485	0	280.00	4	0
486	0	370.00	4	0
487	0	330.00	4	0
488	0	300.00	4	0
489	0	300.00	4	0
490	0	300.00	4	0
491	0	300.00	4	0
492	0	300.00	4	0
493	0	275.00	4	0
494	0	275.00	4	0
495	0	340.00	4	0
496	0	280.00	4	0
497	0	330.00	4	0
498	0	345.00	4	0
499	0	345.00	4	0
500	0	260.00	4	0
501	0	260.00	4	0
502	0	300.00	4	0
503	0	290.00	4	0
504	0	300.00	4	0
505	0	250.00	4	0
506	0	250.00	4	0
507	0	300.00	4	0
508	0	345.00	4	0
509	0	345.00	4	0
510	0	345.00	4	0
511	0	345.00	4	0
512	0	300.00	4	0
513	0	290.00	4	0
514	0	300.00	4	0
515	0	360.00	4	0
516	0	260.00	4	0
517	0	260.00	4	0
518	0	520.00	4	0
519	0	460.00	4	0
520	0	3100.00	4	0
521	0	320.00	4	0
522	0	330.00	4	0
523	0	320.00	4	0
524	0	360.00	4	0
525	0	250.00	4	0
526	0	250.00	4	0
527	0	270.00	4	0
528	0	270.00	4	0
529	0	270.00	4	0
530	0	240.00	4	0

FIGURE 4-12 (Cont.)

531	0	240.00	0
532	4	290.00	0
533	4	290.00	0
534	4	290.00	0
535	4	335.00	0
536	4	335.00	0
537	4	335.00	0
538	4	335.00	0
539	4	230.00	0
540	4	230.00	0
541	4	320.00	0
542	4	320.00	0
543	4	300.00	0
544	4	210.00	0
545	4	260.00	0
546	4	260.00	0
547	4	200.00	0
548	4	370.00	0
549	4	350.00	0
550	4	350.00	0
551	4	325.00	0
552	4	325.00	0
553	4	325.00	0
554	3	325.00	0
555	3	360.00	0
556	3	295.00	0
557	3	295.00	0
558	3	295.00	0
559	3	295.00	0
560	3	360.00	0
561	4	360.00	0
562	4	360.00	0
563	4	240.00	0
564	4	240.00	0
565	4	330.00	0
566	4	330.00	0
567	4	300.00	0
568	4	300.00	0
569	4	650.00	0
570	4	480.00	0
571	4	2400.00	0
572	4	1200.00	0
573	4	600.00	0
574	4	1100.00	0
575	4	606.00	0
576	4	2660.00	0
577	4	250.00	0
578	4	250.00	0
579	4	330.00	0
580	4	330.00	0
581	4	330.00	0
582	4	330.00	0
583	4	330.00	0
584	4	330.00	0
585	4	330.00	0
586	4	330.00	0
587	4	270.00	0
588	4	260.00	0
589	4	270.00	0
590	4	320.00	0

FIGURE 4-12 (Cont.)

591
592
593
594
595
596
597
598
599
600

0
0
0
0
0
0
0
0
0
0

320.00
320.00
320.00
320.00
320.00
320.00
350.00
350.00
400.00
350.00

4
4
4
4
4
4
4
4
4
4

0
0
0
0
0
0
0
0
0
0

FIGURE 4-12 (Cont.)

PATH 81	82	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.489	
	276	275	274	273	272	271	268	267																								
PATH 82	83	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.716
	277	276	275	274	273	272	271	268	267																							
PATH 83	84	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.016
	277	276	275	274	273	272	271	268	267																							
PATH 84	85	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.016
	277	276	275	274	273	272	271	268	267																							
PATH 85	86	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.016
	277	276	275	274	273	272	271	268	267																							
PATH 86	87	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.016
	277	276	275	274	273	272	271	268	267																							
PATH 87	88	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.716
	277	276	275	274	273	272	271	268	267																							
PATH 88	89	138	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.716
	277	276	275	274	273	272	271	268	267																							
PATH 89	90	137	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	8.786	
	278	277	276	275	274	273	272	271	268	267																						
PATH 90	91	136	135	508	507	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	278	277	276	8.239	
	275	274	273	272	271	268	267																									
PATH 91	92	509	510	511	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	8.676	
	283	282	281	280	279	278	277	276	275	274	273	272	271	268	267																	
PATH 92	93	513	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	436	435	434	9.462
	320	319	318	317	316	315	288	289	278	277	276	275	274	273	272	271	268	267														
PATH 93	94	140	139	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	298	8.847	
	289	278	277	276	275	274	273	272	271	268	267																					
PATH 94	95	141	140	139	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	9.108	
	289	278	277	276	275	274	273	272	271	268	267																					
PATH 95	96	141	140	139	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	9.108	
	289	278	277	276	275	274	273	272	271	268	267																					
PATH 96	97	141	140	139	512	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	9.108	
	288	289	278	277	276	275	274	273	272	271	268	267																				
PATH 97	98	514	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	288	289	5.343	
	279	278	277	276	275	274	273	272	271	268	267																					
PATH 98	99	531	517	515	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	9.343	
	287	286	285	284	283	282	281	280	279	263	262	261	260	2																		
PATH 99	100	531	517	515	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	8.814	
	287	286	285	284	283	282	281	280	279	263	262	261	260	3																		
PATH 100	530	531	517	515	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	322	321	320	319	318	317	316	315	8.443	
	287	286	285	284	283	282	281	280	279	263	262	261	260	4																		

FIGURE 4-12 (Cont.)

PATH 149	530 531 517 516 515 438 437 436 435	23	LOCATION 4412	6.376
PATH 150	530 531 517 516 515 438 437 436 435	20	LOCATION 4435	5.350
PATH 151	530 531 517 516 515 438 437 436 435	21	LOCATION 4455	5.520
PATH 152	530 531 517 516 515 438 437 436 435	19	LOCATION 4476	5.066
PATH 153	530 531 517 516 515 438 437 436 435	19	LOCATION 4495	5.066
PATH 154	530 531 517 516 515 438 437 436 435	19	LOCATION 4514	5.316
PATH 155	530 531 517 516 515 438 437 436 435	20	LOCATION 4533	5.543
PATH 156	530 531 517 516 515 438 437 436 435	20	LOCATION 4553	5.543
PATH 157	530 531 517 516 515 438 437 436 435	20	LOCATION 4573	5.543
PATH 158	530 531 517 516 515 438 437 436 435	19	LOCATION 4593	5.316
PATH 159	530 531 517 516 515 438 437 436 435	18	LOCATION 4612	4.895
PATH 160	530 531 517 516 515 438 437 436 435	17	LOCATION 4630	4.425
PATH 161	530 531 517 516 515 438 437 436 435	15	LOCATION 4647	4.133
PATH 162	530 531 517 516 515 438 437 436 435	15	LOCATION 4662	4.730
PATH 163	530 531 517 516 515 438 437 436 435	16	LOCATION 4677	5.634
PATH 164	530 531 517 516 515 438 437 436 435	17	LOCATION 4693	5.839
PATH 165	530 531 517 516 515 438 437 436 435	18	LOCATION 4710	6.043
PATH 166	530 531 517 516 515 438 437 436 435	19	LOCATION 4728	5.570
PATH 167	530 531 517 516 515 438 437 436 435	19	LOCATION 4747	5.570
PATH 168	530 531 517 516 515 438 437 436 435	19	LOCATION 4766	5.570
PATH 169	530 531 517 516 515 438 437 436 435	20	LOCATION 4785	5.741
PATH 170	530 531 517 516 515 438 437 436 435	19	LOCATION 4805	5.570
PATH 171	530 531 517 516 515 438 437 436 435	18	LOCATION 4824	5.343
PATH 172	530 531 517 516 515 438 437 436 435	17	LOCATION 4842	5.839
PATH 173	530 531 517 516 515 438 437 436 435	16	LOCATION 4859	4.934
PATH 174	530 531 517 516 515 438 437 436 435	15	LOCATION 4875	5.430
PATH 175	530 531 517 516 515 438 437 436 435	14	LOCATION 4890	4.975
PATH 176	530 531 517 516 515 438 437 436 435	12	LOCATION 4904	4.698
PATH 177	530 531 517 516 515 438 437 436 435	14	LOCATION 4916	4.623
PATH 178	530 531 517 516 515 438 437 436 435	15	LOCATION 4930	5.551
PATH 179	530 531 517 516 515 438 437 436 435	15		
PATH 180	530 531 517 516 515 438 437 436 435	15		
PATH 181	530 531 517 516 515 438 437 436 435	15		
PATH 182	530 531 517 516 515 438 437 436 435	15		
PATH 183	530 531 517 516 515 438 437 436 435	15		
PATH 184	530 531 517 516 515 438 437 436 435	15		
PATH 185	530 531 517 516 515 438 437 436 435	15		
PATH 186	530 531 517 516 515 438 437 436 435	15		
PATH 187	530 531 517 516 515 438 437 436 435	15		
PATH 188	530 531 517 516 515 438 437 436 435	15		
PATH 189	530 531 517 516 515 438 437 436 435	15		
PATH 190	530 531 517 516 515 438 437 436 435	15		
PATH 191	530 531 517 516 515 438 437 436 435	15		
PATH 192	530 531 517 516 515 438 437 436 435	15		
PATH 193	530 531 517 516 515 438 437 436 435	15		
PATH 194	530 531 517 516 515 438 437 436 435	15		
PATH 195	530 531 517 516 515 438 437 436 435	15		
PATH 196	530 531 517 516 515 438 437 436 435	15		
PATH 197	530 531 517 516 515 438 437 436 435	15		
PATH 198	530 531 517 516 515 438 437 436 435	15		
PATH 199	530 531 517 516 515 438 437 436 435	15		
PATH 200	530 531 517 516 515 438 437 436 435	15		

FIGURE 4-12 (Cont.)

PATH 179	530 531 517 516 515 438 437 436 435	16	434 507 508 135 136 137 83	LOCATION 4945	5.801
PATH 180	530 531 517 516 515 438 437 436 435	16	434 507 508 135 136 137 84	LOCATION 4961	5.101
PATH 181	530 531 517 516 515 438 437 436 435	17	434 507 508 135 136 137 85	LOCATION 4977	5.328
PATH 182	530 531 517 516 515 438 437 436 435	17	434 507 508 135 136 137 86	LOCATION 4994	5.328
PATH 183	530 531 517 516 515 438 437 436 435	17	434 507 508 135 136 137 87	LOCATION 5011	5.328
PATH 184	530 531 517 516 515 438 437 436 435	17	434 507 508 135 136 137 88	LOCATION 5028	6.029
PATH 185	530 531 517 516 515 438 437 436 435	16	434 507 508 135 136 137 89	LOCATION 5045	5.801
PATH 186	530 531 517 516 515 438 437 436 435	15	434 507 508 135 136 137 90	LOCATION 5061	5.551
PATH 187	530 531 517 516 515 438 437 436 435	14	434 507 508 135 136 137 91	LOCATION 5076	5.323
PATH 188	530 531 517 516 515 438 437 436 435	14	434 507 508 135 136 137 92	LOCATION 5090	5.039
PATH 189	530 531 517 516 515 438 437 436 435	7	434 507 508 509 92	LOCATION 5104	3.920
PATH 190	530 531 517 516 515 512 93	8	434 507 508 512 93	LOCATION 5111	4.375
PATH 191	530 531 517 516 515 512 139 94	9	434 507 508 512 139 94	LOCATION 5119	4.602
PATH 192	530 531 517 516 515 512 139 140 95	9	434 507 508 512 139 140 95	LOCATION 5128	4.602
PATH 193	530 531 517 516 515 512 139 140 96	10	434 507 508 512 139 140 96	LOCATION 5137	4.863
PATH 194	530 531 517 516 515 512 139 140 141	97	434 507 508 512 139 140 141	LOCATION 5147	0.742
PATH 195	530 531 517 516 514 98	44	434 507 508 514 98	LOCATION 5153	9.511
PATH 196	530 531 517 516 515 438 437 436 435	41	434 507 508 515 438 437 436 435	LOCATION 5197	8.982
PATH 197	530 531 517 516 515 438 437 436 435	3	434 507 508 515 438 437 436 435	LOCATION 5238	8.611
PATH 198	530 531 517 516 515 438 437 436 435	34	434 507 508 515 438 437 436 435	LOCATION 5276	8.018
PATH 199	530 531 517 516 515 438 437 436 435	31	434 507 508 515 438 437 436 435	LOCATION 5310	7.559
PATH 200	530 531 517 516 515 438 437 436 435	40	434 507 508 515 438 437 436 435	LOCATION 5341	8.748
PATH 201	530 531 517 516 515 438 437 436 435	39	434 507 508 515 438 437 436 435	LOCATION 5381	8.577
PATH 202	530 531 517 516 515 438 437 436 435	38	434 507 508 515 438 437 436 435	LOCATION 5420	8.407
PATH 203	530 531 517 516 515 438 437 436 435	37	434 507 508 515 438 437 436 435	LOCATION 5458	8.902
PATH 204	530 531 517 516 515 438 437 436 435	10	434 507 508 515 438 437 436 435		

FIGURE 4-12 (Cont.)

PATH	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268
538	537	536	535	515	438	437	436	435	434	431	28	430	429	426	425	334	333	332	331	LOCATION 6525	330	495	118	119	120	121	122	123	46	7.578
PATH	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	
538	537	536	535	515	438	437	436	435	434	431	28	430	429	426	425	334	333	332	331	LOCATION 6553	330	495	118	119	120	121	122	123	47	6.878
PATH	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268		
538	537	536	535	515	438	437	436	435	434	431	28	430	429	426	425	334	333	332	331	LOCATION 6581	330	495	118	119	120	121	122	123	48	6.878
PATH	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268			
538	537	536	535	515	438	437	436	435	434	431	27	430	429	426	425	334	333	332	331	LOCATION 6609	330	495	118	119	120	121	122	123	49	6.651
PATH	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268				
538	537	536	535	515	438	437	436	435	434	431	26	430	429	426	425	334	333	332	331	LOCATION 6636	330	495	118	119	120	121	122	50	7.181	
PATH	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268					
538	537	536	535	515	438	437	436	435	434	431	25	430	429	426	425	334	333	332	331	LOCATION 6662	330	495	118	119	120	121	51	6.976		
PATH	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268						
538	537	536	535	515	438	437	436	435	434	431	24	430	429	426	425	334	333	332	331	LOCATION 6687	330	495	118	119	120	52	6.049			
PATH	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268							
538	537	536	535	515	438	437	436	435	434	431	23	430	429	426	425	334	333	332	331	LOCATION 6711	330	495	118	119	120	53	6.544			
PATH	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268								
538	537	536	535	515	438	437	436	435	434	431	20	430	429	426	425	334	333	332	331	LOCATION 6734	330	495	118	119	120	54	5.518			
PATH	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268									
538	537	536	535	515	438	437	436	435	434	431	21	430	429	426	425	424	499	498	125	LOCATION 6754	330	495	118	119	120	55	5.688			
PATH	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268										
538	537	536	535	515	438	437	436	435	434	431	19	430	429	426	425	424	499	498	125	LOCATION 6775	330	495	118	119	120	56	5.233			
PATH	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268											
538	537	536	535	515	438	437	436	435	434	431	19	430	429	426	425	424	499	498	125	LOCATION 6794	330	495	118	119	120	57	5.483			
PATH	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268												
538	537	536	535	515	438	437	436	435	434	431	19	430	429	426	425	424	499	127	58	LOCATION 6813	330	495	118	119	120	58	5.711			
PATH	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268													
538	537	536	535	515	438	437	436	435	434	431	20	430	429	426	425	424	499	127	128	LOCATION 6832	330	495	118	119	120	59	5.711			
PATH	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268														
538	537	536	535	515	438	437	436	435	434	431	20	430	429	426	425	424	499	127	128	LOCATION 6852	330	495	118	119	120	60	5.711			
PATH	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268															
538	537	536	535	515	438	437	436	435	434	431	20	430	429	426	425	424	499	127	128	LOCATION 6872	330	495	118	119	120	61	5.483			
PATH	255	256	257	258	259	260	261	262	263	264	265	266	267	268																
538	537	536	535	515	438	437	436	435	434	431	19	430	429	426	425	424	499	127	62	LOCATION 6892	330	495	118	119	120	62	5.063			
PATH	256	257	258	259	260	261	262	263	264	265	266	267	268																	
538	537	536	535	515	438	437	436	435	434	431	18	430	429	426	425	424	499	63	LOCATION 6911	330	495	118	119	120	63	4.593				
PATH	257	258	259	260	261	262	263	264	265	266	267	268																		
538	537	536	535	515	438	437	436	435	434	431	17	430	429	426	425	424	499	64	LOCATION 6929	330	495	118	119	120	64	4.306				
PATH	258	259	260	261	262	263	264	265	266	267	268																			
538	537	536	535	515	438	437	436	435	434	431	15	430	429	426	425	424	499	65	LOCATION 6946	330	495	118	119	120	65	4.898				
PATH	259	260	261	262	263	264	265	266	267	268																				
538	537	536	535	515	438	437	436	435	434	431	15	430	429	426	425	424	499	66	LOCATION 6961	330	495	118	119	120	66	5.802				
PATH	260	261	262	263	264	265	266	267	268																					
538	537	536	535	515	438	437	436	435	434	431	16	430	429	426	425	424	499	67	LOCATION 6976	330	495	118	119	120	67	6.007				
PATH	261	262	263	264	265	266	267	268																						
538	537	536	535	515	438	437	436	435	434	431	17	430	429	426	425	424	499	68	LOCATION 6992	330	495	118	119	120	68	6.211				
PATH	262	263	264	265	266	267	268																							
538	537	536	535	515	438	437	436	435	434	431	18	430	429	426	425	424	499	69	LOCATION 7009	330	495	118	119	120	69	5.738				
PATH	263	264	265	266	267	268																								
538	537	536	535	515	438	437	436	435	434																					

PATH 269	538 537 536 535 515 438 437 436 435	17	434 431 430 504 129 130 131 76	LOCATION 7141	6.007
PATH 270	538 537 536 535 515 438 437 436 435	LENGTH 16		LOCATION 7158	5.102
PATH 271	538 537 536 535 515 438 437 436 435	LENGTH 15		LOCATION 7174	5.598
PATH 272	538 537 536 535 515 438 437 436 435	LENGTH 14		LOCATION 7189	5.143
PATH 273	538 537 536 535 515 438 437 436 435	LENGTH 12		LOCATION 7203	4.866
PATH 274	538 537 536 535 515 438 437 436 435	LENGTH 14		LOCATION 7215	4.791
PATH 275	538 537 536 535 515 438 437 436 435	LENGTH 15		LOCATION 7229	5.719
PATH 276	538 537 536 535 515 438 437 436 435	LENGTH 16		LOCATION 7244	5.969
PATH 277	538 537 536 535 515 438 437 436 435	LENGTH 16		LOCATION 7260	5.269
PATH 278	538 537 536 535 515 438 437 436 435	LENGTH 17		LOCATION 7276	5.496
PATH 279	538 537 536 535 515 438 437 436 435	LENGTH 17		LOCATION 7293	5.495
PATH 280	538 537 536 535 515 438 437 436 435	LENGTH 17		LOCATION 7310	5.496
PATH 281	538 537 536 535 515 438 437 436 435	LENGTH 17		LOCATION 7327	6.196
PATH 282	538 537 536 535 515 438 437 436 435	LENGTH 16		LOCATION 7344	5.969
PATH 283	538 537 536 535 515 438 437 436 435	LENGTH 15		LOCATION 7360	5.719
PATH 284	538 537 536 535 515 438 437 436 435	LENGTH 14		LOCATION 7375	5.491
PATH 285	538 537 536 535 515 438 437 436 435	LENGTH 14		LOCATION 7389	5.207
PATH 286	538 537 536 535 515 438 437 436 435	LENGTH 7		LOCATION 7403	4.088
PATH 287	538 537 536 535 515 512 93	LENGTH 8		LOCATION 7410	4.543
PATH 288	538 537 536 535 515 512 139 94	LENGTH 9		LOCATION 7418	4.770
PATH 289	538 537 536 535 515 512 139 140 95	LENGTH 9		LOCATION 7427	4.770
PATH 290	538 537 536 535 515 512 139 140 96	LENGTH 10		LOCATION 7436	5.031
PATH 291	538 537 536 535 515 512 139 140 141 97	LENGTH 6		LOCATION 7446	0.910
PATH 292	538 537 536 535 514 98	LENGTH 18		LOCATION 7452
PATH 293	538 537 534 533 532 521 522 523 524 525 526 613 614 615 616 612 611 1	LENGTH 43		LOCATION 7470	9.333
PATH 294	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287	LENGTH 40		LOCATION 7513	8.804
PATH 295	286 285 284 283 282 281 280 279 263 3	LENGTH 37		LOCATION 7553	8.433
PATH 296	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287	LENGTH 33		LOCATION 7590	7.841
PATH 297	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 287	LENGTH 30		LOCATION 7623	7.381
PATH 298	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 317 316 315 6	LENGTH 39		LOCATION 7653	8.570
PATH 299	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LENGTH 7			

FIGURE 4-12 (Cont.)

PATH 299	LENGTH 38	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 7692	8.399
PATH 300	LENGTH 8	100 101 102 103 104 105 106 8		8.229
PATH 301	LENGTH 9	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 7730	8.724
PATH 302	LENGTH 10	100 101 102 103 104 105 106 10		7.820
PATH 303	LENGTH 11	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 7767	8.293
PATH 304	LENGTH 12	100 101 102 103 104 105 106 11	LOCATION 7803	7.365
PATH 305	LENGTH 13	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 7838	7.838
PATH 306	LENGTH 30	100 101 102 103 104 105 106 11 12	LOCATION 7872	7.480
PATH 307	LENGTH 29	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 7905	7.332
PATH 308	LENGTH 29	100 101 102 103 104 105 106 11 12	LOCATION 7937	6.632
PATH 309	LENGTH 31	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8025	7.959
PATH 310	LENGTH 31	100 101 102 103 104 105 106 11 12	LOCATION 8056	7.259
PATH 311	LENGTH 31	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8087	7.259
PATH 312	LENGTH 31	100 101 102 103 104 105 106 11 12	LOCATION 8118	7.032
PATH 313	LENGTH 30	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8149	6.805
PATH 314	LENGTH 29	100 101 102 103 104 105 106 11 12	LOCATION 8179	6.877
PATH 315	LENGTH 26	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8208	6.922
PATH 316	LENGTH 25	100 101 102 103 104 105 106 11 12	LOCATION 8234	6.392
PATH 317	LENGTH 26	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8259	7.272
PATH 318	LENGTH 27	100 101 102 103 104 105 106 11 12	LOCATION 8285	6.767
PATH 319	LENGTH 28	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8312	6.938
PATH 320	LENGTH 29	100 101 102 103 104 105 106 11 12	LOCATION 8340	7.108
PATH 321	LENGTH 30	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8369	7.108
PATH 322	LENGTH 30	100 101 102 103 104 105 106 11 12	LOCATION 8399	7.335
PATH 323	LENGTH 31	519 517 516 515 438 437 436 435 434 431 430 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481 480 479 478	LOCATION 8429	
PATH 324	LENGTH 32	100 101 102 103 104 105 106 11 12	LOCATION 8459	

FIGURE 4-12 (Cont.)

PATH 324	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	116	33	7.108
PATM 325	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	34	6.938	
PATH 326	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	35	6.767	
PATM 327	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	36	7.297	
PATH 328	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	37	7.092	
PATH 329	519	517	516	515	438	437	436	435	434	431	430	429	426	425	334	333	332	331	330	324	323	492	491	111	112	113	114	115	38		

FIGURE 4-12 (Cont.)

PATH 329	519 517 516 515 438 437 436 435 434	LENGTH 23	431 430 429 426 425 334 333 332 331 330	LOCATION 8600	6.433
PATH 330	519 517 516 515 438 437 436 435 434	LENGTH 22	431 430 429 426 425 334 333 332 331 330	LOCATION 8623	6.366
PATH 331	519 517 516 515 438 437 436 435 434	LENGTH 23	431 430 429 426 425 334 333 332 331 330	LOCATION 8645	6.571
PATH 332	519 517 516 515 438 437 436 435 434	LENGTH 24	431 430 429 426 425 334 333 332 331 330	LOCATION 8668	6.798
PATH 333	519 517 516 515 438 437 436 435 434	LENGTH 25	431 430 429 426 425 334 333 332 331 330	LOCATION 8692	6.303
PATH 334	519 517 516 515 438 437 436 435 434	LENGTH 26	431 430 429 426 425 334 333 332 331 330	LOCATION 8717	6.473
PATH 335	519 517 516 515 438 437 436 435 434	LENGTH 27	431 430 429 426 425 334 333 332 331 330	LOCATION 8743	6.700
PATH 336	519 517 516 515 438 437 436 435 434	LENGTH 28	431 430 429 426 425 334 333 332 331 330	LOCATION 8770	6.871
PATH 337	519 517 516 515 438 437 436 435 434	LENGTH 27	431 430 429 426 425 334 333 332 331 330	LOCATION 8798	7.400
PATH 338	519 517 516 515 438 437 436 435 434	LENGTH 27	431 430 429 426 425 334 333 332 331 330	LOCATION 8825	6.700
PATH 339	519 517 516 515 438 437 436 435 434	LENGTH 27	431 430 429 426 425 334 333 332 331 330	LOCATION 8852	6.700
PATH 340	519 517 516 515 438 437 436 435 434	LENGTH 26	431 430 429 426 425 334 333 332 331 330	LOCATION 8879	6.473
PATH 341	519 517 516 515 438 437 436 435 434	LENGTH 25	431 430 429 426 425 334 333 332 331 330	LOCATION 8905	7.003
PATH 342	519 517 516 515 438 437 436 435 434	LENGTH 24	431 430 429 426 425 334 333 332 331 330	LOCATION 8930	6.798
PATH 343	519 517 516 515 438 437 436 435 434	LENGTH 23	431 430 429 426 425 334 333 332 331 330	LOCATION 8954	5.871
PATH 344	519 517 516 515 438 437 436 435 434	LENGTH 22	431 430 429 426 425 334 333 332 331 330	LOCATION 8977	6.366
PATH 345	519 517 516 515 438 437 436 435 434	LENGTH 19	431 430 429 426 425 334 333 332 331 330	LOCATION 8999	5.360
PATH 346	519 517 516 515 438 437 436 435 434	LENGTH 20	431 430 429 426 425 424 499 498 125 54	LOCATION 9018	5.510
PATH 347	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 429 426 425 424 499 498 125 126	LOCATION 9038	5.056
PATH 348	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 429 426 425 424 499 498 56	LOCATION 9056	5.056
PATH 349	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 429 426 425 424 499 498 57	LOCATION 9074	5.306
PATH 350	519 517 516 515 438 437 436 435 434	LENGTH 19	431 430 429 426 425 424 499 127 58	LOCATION 9092	5.533
PATH 351	519 517 516 515 438 437 436 435 434	LENGTH 19	431 430 429 426 425 424 499 127 128 59	LOCATION 9111	5.533
PATH 352	519 517 516 515 438 437 436 435 434	LENGTH 19	431 430 429 426 425 424 499 127 128 60	LOCATION 9130	5.533
PATH 353	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 429 426 425 424 499 127 128 61	LOCATION 9149	5.306
PATH 354	519 517 516 515 438 437 436 435 434	LENGTH 17	431 430 429 426 425 424 499 127 62	LOCATION 9167	4.885
PATH 355	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 429 426 425 424 499 63	LOCATION 9184	4.415
PATH 356	519 517 516 515 438 437 436 435 434	LENGTH 14	431 430 429 426 425 424 64	LOCATION 9200	4.128
PATH 357	519 517 516 515 438 437 436 435 434	LENGTH 14	431 430 429 502 65	LOCATION 9214	4.720
PATH 358	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 66	LOCATION 9228	5.624
PATH 359	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 130 67		

FIGURE 4-12 (Cont.)

PATH 359	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 68	LOCATION 9243	5.829
PATH 360	519 517 516 515 438 437 436 435 434	LENGTH 17	431 430 504 129 130 131 132 69	LOCATION 9259	6.033
PATH 361	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 504 129 130 131 132 133 70	LOCATION 9276	5.561
PATH 362	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 504 129 130 131 132 133 71	LOCATION 9294	5.561
PATH 363	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 504 129 130 131 132 133 72	LOCATION 9312	5.561
PATH 364	519 517 516 515 438 437 436 435 434	LENGTH 19	431 430 504 129 130 131 132 133 134 73	LOCATION 9330	5.731
PATH 365	519 517 516 515 438 437 436 435 434	LENGTH 18	431 430 504 129 130 131 132 133 74	LOCATION 9349	5.561
PATH 366	519 517 516 515 438 437 436 435 434	LENGTH 17	431 430 504 129 130 131 132 133 75	LOCATION 9367	5.333
PATH 367	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 132 133 76	LOCATION 9384	5.829
PATH 368	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 130 131 132 133 77	LOCATION 9400	4.924
PATH 369	519 517 516 515 438 437 436 435 434	LENGTH 14	431 430 504 129 130 131 132 133 78	LOCATION 9415	5.420
PATH 370	519 517 516 515 438 437 436 435 434	LENGTH 13	431 430 504 129 130 131 132 133 79	LOCATION 9429	4.965
PATH 371	519 517 516 515 438 437 436 435 434	LENGTH 11	431 430 504 129 130 131 132 133 80	LOCATION 9442	4.688
PATH 372	519 517 516 515 438 437 436 435 434	LENGTH 13	431 430 504 129 130 131 132 133 81	LOCATION 9453	4.613
PATH 373	519 517 516 515 438 437 436 435 434	LENGTH 14	431 430 504 129 130 131 132 133 82	LOCATION 9466	5.541
PATH 374	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 130 131 132 133 83	LOCATION 9480	5.791
PATH 375	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 130 131 132 133 84	LOCATION 9495	5.091
PATH 376	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 132 133 85	LOCATION 9510	5.318
PATH 377	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 132 133 86	LOCATION 9526	5.318
PATH 378	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 132 133 87	LOCATION 9542	5.318
PATH 379	519 517 516 515 438 437 436 435 434	LENGTH 16	431 430 504 129 130 131 132 133 88	LOCATION 9558	6.018
PATH 380	519 517 516 515 438 437 436 435 434	LENGTH 15	431 430 504 129 130 131 132 133 89	LOCATION 9574	5.791
PATH 381	519 517 516 515 438 437 436 435 434	LENGTH 14	431 430 504 129 130 131 132 133 90	LOCATION 9589	5.541
PATH 382	519 517 516 515 438 437 436 435 434	LENGTH 13	431 430 504 129 130 131 132 133 91	LOCATION 9603	5.313
PATH 383	519 517 516 515 438 437 436 435 434	LENGTH 13	431 430 504 129 130 131 132 133 92	LOCATION 9616	5.029
PATH 384	519 517 516 515 438 437 436 435 434	LENGTH 6	431 430 504 129 130 131 132 133 93	LOCATION 9629	3.910
PATH 385	519 517 516 515 438 437 436 435 434	LENGTH 7	431 430 504 129 130 131 132 133 94	LOCATION 9635	4.365
PATH 386	519 517 516 515 438 437 436 435 434	LENGTH 8	431 430 504 129 130 131 132 133 95	LOCATION 9642	4.592
PATH 387	519 517 516 515 438 437 436 435 434	LENGTH 8	431 430 504 129 130 131 132 133 96	LOCATION 9650	4.592
PATH 388	519 517 516 515 438 437 436 435 434	LENGTH 9	431 430 504 129 130 131 132 133 97	LOCATION 9658	4.853

FIGURE 4-12 (Cont.)

PATH	389	517	516	514	98	LENGTH	5	LOCATION	9667	0.732																					
PATH 390	519	521	522	523	524	525	526	613	614	615	616	612	611	1	LOCATION 9672	0.732															
PATH 391	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	9.884
PATH 392	300	299	288	287	286	285	284	283	282	281	280	279	263	262	261	260	2	LOCATION 9686	9.884												
PATH 393	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	9.356
PATH 394	300	299	288	287	286	285	284	283	282	281	280	279	263	3	LOCATION 9733	9.356															
PATH 395	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	8.985
PATH 396	300	299	288	287	286	285	284	283	282	281	280	279	263	4	LOCATION 9777	8.985															
PATH 397	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	8.392
PATH 398	300	299	288	287	286	285	284	283	282	281	280	279	263	5	LOCATION 9818	8.392															
PATH 399	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	7.933
PATH 400	300	299	288	287	286	285	284	283	282	281	280	279	263	6	LOCATION 9855	7.933															
PATH 401	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	305	304	303	302	301	9.447
PATH 402	300	299	288	287	286	285	284	283	282	281	280	279	263	7	LOCATION 9889	9.447															
PATH 403	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	9.276
PATH 404	318	481	480	479	478	100	101	102	103	104	105	106	107	7	LOCATION 9933	9.276															
PATH 405	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	9.106
PATH 406	318	481	480	479	478	100	101	102	103	104	105	106	107	8	LOCATION 9976	9.106															
PATH 407	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	9.601
PATH 408	318	481	480	479	478	100	101	102	103	104	105	106	107	9	LOCATION 10018	9.601															
PATH 409	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.697
PATH 410	318	481	480	479	478	100	101	102	103	104	105	106	107	10	LOCATION 10059	8.697															
PATH 411	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	9.170
PATH 412	318	481	480	479	478	100	101	102	103	104	105	106	107	11	LOCATION 10099	9.170															
PATH 413	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.242
PATH 414	318	481	480	479	478	100	101	102	103	104	105	106	107	12	LOCATION 10138	8.242															
PATH 415	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.735
PATH 416	318	481	480	479	478	100	101	102	103	104	105	106	107	13	LOCATION 10176	8.735															
PATH 417	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.357
PATH 418	318	481	480	479	478	100	101	102	103	104	105	106	107	14	LOCATION 10213	8.357															
PATH 419	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.209
PATH 420	318	481	480	479	478	100	101	102	103	104	105	106	107	15	LOCATION 10248	8.209															
PATH 421	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	7.509
PATH 422	318	481	480	479	478	100	101	102	103	104	105	106	107	16	LOCATION 10282	7.509															
PATH 423	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	8.036
PATH 424	318	481	480	479	478	100	101	102	103	104	105	106	107	17	LOCATION 10316	8.036															
PATH 425	391	392	393	394	395	398	399	400	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	
PATH 426	318	486	108	109	110	11	18																								

FIGURE 4-12 (Cont.)

PATH 408	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10352	313 312 254 255 321 320 319	8.136
318 486 108 109 110 19				
PATH 409	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10388	313 312 254 255 321 320 319	8.136
318 486 108 109 110 20				
PATH 410	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10424	313 312 254 255 321 320 319	8.136
318 486 108 109 110 21				
PATH 411	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10460	313 312 254 255 321 320 319	7.909
318 486 108 109 22				
PATH 412	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10495	313 312 254 255 321 320 319	7.682
318 486 108 23				
PATH 413	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10529	313 312 254 255 321 320 498	7.754
24				
PATH 414	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10560	313 312 254 255 321 320 498	7.799
391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421				
PATH 415	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10590	313 312 254 255 321 320 498	7.269
391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421				
26				
PATH 416	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10621	313 312 254 255 321 320 498	7.969
391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421				
37				
PATH 417	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10652	313 312 254 255 321 320 498	8.174
391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421				
113 27				
PATH 418	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10684	313 312 254 255 321 320 498	8.174
391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421				
113 36				

FIGURE 4-12 (Cont.)

PATH 419	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10716	313 312 254 255 256 111 112	7.644
113 114 28				
PATH 420	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10749	313 312 254 255 256 111 112	7.644
113 114 35				
PATH 421	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10782	313 312 254 255 256 111 112	7.815
113 114 115 29				
PATH 422	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10816	313 312 254 255 256 111 112	7.815
113 114 115 34				
PATH 423	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10850	313 312 254 255 256 111 112	7.985
113 114 115 30				
PATH 424	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10885	313 312 254 255 256 111 112	7.985
113 114 115 31				
PATH 425	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10920	313 312 254 255 256 111 112	7.985
113 114 115 33				
PATH 426	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10955	313 312 254 255 256 111 112	8.212
113 114 115 117 32				
PATH 427	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 10991	329 324 323 492 38	7.309
113 114 115 116 30				
PATH 428	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11019	329 495 118 39	7.243
113 114 115 116 33				
PATH 429	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11046	329 495 118 53	7.243
113 114 115 116 31				
PATH 430	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11073	329 495 118 119 40	7.448
113 114 115 116 33				
PATH 431	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11101	329 495 118 119 52	6.748
113 114 115 116 33				
PATH 432	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11129	329 495 118 119 120 41	7.675
113 114 115 116 33				
PATH 433	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11158	329 495 118 119 120 51	7.675
113 114 115 116 33				
PATH 434	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11187	329 495 118 119 120 42	7.180
113 114 115 116 33				
PATH 435	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11217	329 495 118 119 120 121 50	7.880
113 114 115 116 33				
PATH 436	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11247	329 495 118 119 120 121 122	7.350
113 114 115 116 33				
PATH 437	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11278	329 495 118 119 120 121 122	7.350
113 114 115 116 33				
PATH 438	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11309	329 495 118 119 120 121 122	7.577
123 44				
PATH 439	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11341	329 495 118 119 120 121 122	7.577
123 45				
PATH 440	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11373	329 495 118 119 120 121 122	7.577
123 47				
PATH 441	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11405	329 495 118 119 120 121 122	8.277
123 46				
PATH 442	391 392 393 394 395 398 399 400 403 404 405 410 411 412 413 416 419 420 421	LOCATION 11437	329 495 118 119 120 121 122	7.748
123 124 45				

FIGURE 4-12 (Cont.)

PATH 443	391 392 393 394 395 398 399 400 403	LENGTH 25	410 411 412 413 427 428 426 425	LOCATION 11470	6.234
PATH 444	391 392 393 394 395 398 399 400 403	LENGTH 23	424 499 498 125 126 55	LOCATION 11495	6.029
PATH 445	391 392 393 394 395 398 399 400 403	LENGTH 24	424 499 127 58	LOCATION 11518	6.257
PATH 446	391 392 393 394 395 398 399 400 403	LENGTH 24	424 499 127 128 59	LOCATION 11542	6.257
PATH 447	391 392 393 394 395 398 399 400 403	LENGTH 24	424 499 127 128 60	LOCATION 11566	6.257
PATH 448	391 392 393 394 395 398 399 400 403	LENGTH 23	424 499 127 128 61	LOCATION 11590	6.029
	391 392 393 394 395 398 399 400 403	404 405 410 411 412 413 427 428 426 425	424 499 127 62		

FIGURE 4-12 (Cont.)

PATH 479	LENGTH 22	391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136	LOCATION 12229	6.192
PATH 480	LENGTH 22	391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 135 136	LOCATION 12251	6.892
PATH 481	LENGTH 12	391 392 439 440 441 442 443 444 446 445 512 93	LOCATION 12273	4.785
PATH 482	LENGTH 13	391 392 439 440 441 442 443 444 446 445 512 139 94	LOCATION 12285	5.239
PATH 483	LENGTH 14	391 392 439 440 441 442 443 444 446 445 512 139 140 95	LOCATION 12298	5.467
PATH 484	LENGTH 14	391 392 439 440 441 442 443 444 446 445 512 139 140 96	LOCATION 12312	5.467
PATH 485	LENGTH 15	391 392 439 440 441 442 443 444 446 445 512 139 140 141 97	LOCATION 12326	5.728
PATH 486	LENGTH 13	391 392 439 440 441 442 443 444 446 445 512 513 98	LOCATION 12341	1.928
PATH 487	LENGTH 19	391 392 439 440 441 442 443 444 446 445 438 437 436 435 434 507 508 509 92	LOCATION 12354	5.904
PATH 488	LENGTH 41	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285	LOCATION 12373	8.896
PATH 489	LENGTH 38	284 283 282 281 280 279 263 262 261 260 2	LOCATION 12414	8.368
PATH 490	LENGTH 35	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 324 313 312 312 305 304 303 302 301 300 289 288 287 286 285	LOCATION 12452	8.002
PATH 491	LENGTH 31	284 283 282 281 4	LOCATION 12487	7.404
PATH 492	LENGTH 28	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 305 304 303 302 301 300 289 288 287 286 285	LOCATION 12518	6.945
PATH 493	LENGTH 38	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 305 304 303 302 301 300 289 288 287 286 285	LOCATION 12546	8.459
PATH 494	LENGTH 37	101 102 103 104 105 106 107 7	LOCATION 12584	8.288
PATH 495	LENGTH 36	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 254 255 321 320 319 318 481 480 479 478 100	LOCATION 12621	8.118
PATH 496	LENGTH 35	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 254 255 321 320 319 318 481 480 479 478 100	LOCATION 12657	8.613
PATH 497	LENGTH 34	101 102 103 104 10	LOCATION 12692	7.709
PATH 498	LENGTH 33	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 254 255 321 320 319 318 481 480 479 478 100	LOCATION 12726	8.182
PATH 499	LENGTH 32	101 102 12	LOCATION 12759	7.254
PATH 500	LENGTH 31	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 254 255 321 320 319 318 481 480 479 478 100	LOCATION 12791	7.727
PATH 501	LENGTH 31	101 13		
PATH 502	LENGTH 31	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 312 254 255 321 320 319 318 481 480 479 478 100		

FIGURE 4-12 (Cont.)

PATH 501	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 483 15	7.369
PATH 502	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 16	7.221
PATH 503	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 17	6.521
PATH 504	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 484 17	7.848
PATH 505	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110 18	7.148
PATH 506	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110 19	7.140
PATH 507	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110 20	7.148
PATH 508	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 110 21	6.921
PATH 509	401 402 403 404 405 410 411 412 413 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 486 108 109 22	

FIGURE 4-12 (Cont.)

PATH 509	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	319	318	486	108	23	6.693		
PATH 510	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24				6.766		
PATH 511	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	321	320						6.810		
PATH 512	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	25					6.281		
PATH 513	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	26				7.185		
PATH 514	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	27			6.656		
PATH 515	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	28		6.826		
PATH 516	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	29	6.997		
PATH 517	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	30	6.997	
PATH 518	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	31	7.224	
PATH 519	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	32	6.997
PATH 520	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	33	6.826
PATH 521	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	34	6.656
PATH 522	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	35	7.165
PATH 523	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	36	6.991
PATH 524	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	37	6.321
PATH 525	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	38	6.255
PATH 526	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	39	6.460
PATH 527	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	40	6.687
PATH 528	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	41	6.191
PATH 529	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	42	6.362
PATH 530	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	43	6.599
PATH 531	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	44	6.760
PATH 532	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	45	7.289
PATH 533	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	46	6.589
PATH 534	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	47	6.589
PATH 535	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	48	6.362
PATH 536	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	49	6.891
PATH 537	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	50	6.687
PATH 538	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	51	5.760
PATH 539	401	402	403	404	405	410	411	412	413	416	419	420	421	327	326	325	314	313	312	254	255	256	111	112	113	114	115	116	117	52	

FIGURE 4-12 (Cont.)

PATH 539	401 402 403 404 405 410 411 412 413 416 419	21	LOCATION 13824
PATH 540	401 402 403 404 405 410 411 412 413 427 428	18	118 53
PATH 541	401 402 403 404 405 410 411 412 413 427 428	19	LOCATION 13845
PATH 542	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 13863
PATH 543	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 13882
PATH 544	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 13899
PATH 545	401 402 403 404 405 410 411 412 413 427 428	18	LOCATION 13916
PATH 546	401 402 403 404 405 410 411 412 413 427 428	18	LOCATION 13933
PATH 547	401 402 403 404 405 410 411 412 413 427 428	18	LOCATION 13951
PATH 548	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 13969
PATH 549	401 402 403 404 405 410 411 412 413 427 428	16	LOCATION 13987
PATH 550	401 402 403 404 405 410 411 412 413 427 428	15	LOCATION 14004
PATH 551	401 402 403 404 405 410 411 412 413 427 428	13	LOCATION 14020
PATH 552	401 402 403 404 405 410 411 412 413 427 428	12	LOCATION 14035
PATH 553	401 402 403 404 405 410 411 412 413 427 428	13	LOCATION 14048
PATH 554	401 402 403 404 405 410 411 412 413 427 428	14	LOCATION 14060
PATH 555	401 402 403 404 405 410 411 412 413 427 428	15	LOCATION 14073
PATH 556	401 402 403 404 405 410 411 412 413 427 428	16	LOCATION 14087
PATH 557	401 402 403 404 405 410 411 412 413 427 428	16	LOCATION 14102
PATH 558	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 14118
PATH 559	401 402 403 404 405 410 411 412 413 427 428	17	LOCATION 14134
PATH 560	401 402 403 404 405 410 411 412 413 427 428	16	LOCATION 14150
PATH 561	401 402 403 404 405 410 411 412 413 427 428	15	LOCATION 14167
PATH 562	401 402 403 404 405 410 411 412 413 427 428	14	LOCATION 14183
PATH 563	401 402 403 404 405 410 411 412 413 427 428	13	LOCATION 14198
PATH 564	401 402 403 404 405 410 411 412 413 427 428	12	LOCATION 14212
PATH 565	401 402 403 404 405 410 411 412 413 427 428	11	LOCATION 14225
PATH 566	401 402 403 404 405 410 411 412 413 427 428	9	LOCATION 14237
PATH 567	401 402 403 404 405 410 411 412 413 427 428	11	LOCATION 14248
PATH 568	401 402 403 404 405 410 411 412 413 427 428	12	LOCATION 14257
PATH 569	401 402 403 404 405 410 411 412 413 427 428	82	LOCATION 14268

FIGURE 4-12 (Cont.)

6.711	6.017	7.344	6.644	6.644	6.619	6.417	6.190	6.262	6.307	5.777	6.682	6.152	6.322	6.493	6.493	6.720	6.493	6.322	6.152	6.682	6.477	5.817	5.751	5.956	6.183	5.688	5.858	6.085	6.256	
PATH 599	PATH 600	PATH 601	PATH 602	PATH 603	PATH 604	PATH 605	PATH 606	PATH 607	PATH 608	PATH 609	PATH 610	PATH 611	PATH 612	PATH 613	PATH 614	PATH 615	PATH 616	PATH 617	PATH 618	PATH 619	PATH 620	PATH 621	PATH 622	PATH 623	PATH 624	PATH 625	PATH 626	PATH 627	PATH 628	
406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	406 407 410 411 412 413 416 419 420	
LENGTH 25	LENGTH 25	LENGTH 27	LENGTH 27	LENGTH 27	LENGTH 27	LENGTH 26	LENGTH 25	LENGTH 22	LENGTH 21	LENGTH 22	LENGTH 23	LENGTH 24	LENGTH 25	LENGTH 26	LENGTH 26	LENGTH 27	LENGTH 25	LENGTH 25	LENGTH 24	LENGTH 23	LENGTH 22	LENGTH 19	LENGTH 18	LENGTH 19	LENGTH 20	LENGTH 21	LENGTH 22	LENGTH 23	LENGTH 24	
326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 314 313 312 254 255 321	326 325 328 329 324 323 492 38	326 325 328 329 495 118 39	326 325 328 329 495 118 119 40	326 325 328 329 495 118 119 120 41	326 325 328 329 495 118 119 120 121 42	326 325 328 329 495 118 119 120 121 122 43	326 325 328 329 495 118 119 120 121 122 123 44	326 325 328 329 495 118 119 120 121 122 123 124 45
LOCATION 14933	LOCATION 14958	LOCATION 14983	LOCATION 15010	LOCATION 15037	LOCATION 15064	LOCATION 15091	LOCATION 15117	LOCATION 15142	LOCATION 15164	LOCATION 15185	LOCATION 15207	LOCATION 15230	LOCATION 15254	LOCATION 15279	LOCATION 15305	LOCATION 15331	LOCATION 15358	LOCATION 15384	LOCATION 15409	LOCATION 15433	LOCATION 15456	LOCATION 15478	LOCATION 15497	LOCATION 15515	LOCATION 15534	LOCATION 15554	LOCATION 15575	LOCATION 15597	LOCATION 15620	

FIGURE 4-12 (Cont.)

PATH 629	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119 120	LENGTH 23	LOCATION 15644	6.785
PATH 630	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 23	LOCATION 15667	6.085
PATH 631	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 23	LOCATION 15690	6.085
PATH 632	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 22	LOCATION 15713	5.858
PATH 633	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 21	LOCATION 15735	6.388
PATH 634	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 20	LOCATION 15756	6.183
PATH 635	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 120	LENGTH 19	LOCATION 15776	5.256
PATH 636	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 119	LENGTH 18	LOCATION 15795	5.751
PATH 637	406 407 410 411 412 413 416 419 420 421 327 326 325 328 329 495 118 53	LENGTH 15	LOCATION 15813	4.571
PATH 638	406 407 410 411 412 413 427 428 426 425 424 499 498 125 54	LENGTH 16	LOCATION 15828	4.742
PATH 639	406 407 410 411 412 413 427 428 426 425 424 499 498 125 126 55	LENGTH 14	LOCATION 15844	4.287
PATH 640	406 407 410 411 412 413 427 428 426 425 424 499 498 56	LENGTH 14	LOCATION 15858	4.287
PATH 641	406 407 410 411 412 413 427 428 426 425 424 499 498 57	LENGTH 14	LOCATION 15872	4.537
PATH 642	406 407 410 411 412 413 427 428 426 425 424 499 127 58	LENGTH 15	LOCATION 15886	4.765
PATH 643	406 407 410 411 412 413 427 428 426 425 424 499 127 128 59	LENGTH 15	LOCATION 15901	4.765
PATH 644	406 407 410 411 412 413 427 428 426 425 424 499 127 128 60	LENGTH 15	LOCATION 15916	4.765
PATH 645	406 407 410 411 412 413 427 428 426 425 424 499 127 128 61	LENGTH 14	LOCATION 15931	4.537
PATH 646	406 407 410 411 412 413 427 428 426 425 424 499 127 62	LENGTH 13	LOCATION 15945	4.117
PATH 647	406 407 410 411 412 413 427 428 426 425 424 499 63	LENGTH 12	LOCATION 15958	3.646
PATH 648	406 407 410 411 412 413 427 428 426 425 424 64	LENGTH 10	LOCATION 15970	3.360
PATH 649	406 407 410 411 412 413 427 428 502 65	LENGTH 9	LOCATION 15980	3.887
PATH 650	406 407 432 433 431 430 504 129 66	LENGTH 10	LOCATION 15989	4.792
PATH 651	406 407 432 433 431 430 504 129 130 67	LENGTH 11	LOCATION 15999	4.996
PATH 652	406 407 432 433 431 430 504 129 130 131 68	LENGTH 12	LOCATION 16010	5.201
PATH 653	406 407 432 433 431 430 504 129 130 131 132 69	LENGTH 13	LOCATION 16022	4.728
PATH 654	406 407 432 433 431 430 504 129 130 131 132 133 70	LENGTH 13	LOCATION 16035	4.728
PATH 655	406 407 432 433 431 430 504 129 130 131 132 133 71	LENGTH 13	LOCATION 16048	4.728
PATH 656	406 407 432 433 431 430 504 129 130 131 132 133 72	LENGTH 14	LOCATION 16061	4.899
PATH 657	406 407 432 433 431 430 504 129 130 131 132 133 73	LENGTH 13	LOCATION 16075	4.728
PATH 658	406 407 432 433 431 430 504 129 130 131 132 133 74	LENGTH 12	LOCATION 16088	4.501

FIGURE 4-12 (Cont.)

PATH 659	11	LENGTH	16100	4.996
406 407 432 433 431 430 504 129 130	131	76	LOCATION 16111	4.092
PATH 660	10	LENGTH	LOCATION 16121	4.507
406 407 432 433 431 430 504 129 130	77		LOCATION 16130	4.133
PATH 661	9	LENGTH	LOCATION 16138	3.856
406 407 432 433 431 430 504 129 78			LOCATION 16144	3.781
PATH 662	8	LENGTH	LOCATION 16152	4.708
406 407 432 433 431 430 504 79			LOCATION 16161	4.958
PATH 663	6	LENGTH	LOCATION 16171	4.258
406 407 432 433 507 80			LOCATION 16181	4.485
PATH 664	8	LENGTH	LOCATION 16192	4.485
406 407 432 433 507 508 135 81			LOCATION 16203	4.485
PATH 665	9	LENGTH	LOCATION 16214	5.185
406 407 432 433 507 508 135 136 82			LOCATION 16225	4.958
PATH 666	10	LENGTH	LOCATION 16235	4.708
406 407 432 433 507 508 135 136 137 83			LOCATION 16244	4.481
PATH 667	10	LENGTH	LOCATION 16252	4.197
406 407 432 433 507 508 135 136 137 84			LOCATION 16260	4.538
PATH 668	11	LENGTH	LOCATION 16270	4.992
406 407 432 433 507 508 135 136 137 138 85			LOCATION 16281	5.220
PATH 669	11	LENGTH	LOCATION 16293	5.220
406 407 432 433 507 508 135 136 137 138 86			LOCATION 16305	5.481
PATH 670	11	LENGTH	LOCATION 16318	1.681
406 407 432 433 507 508 135 136 137 138 87			LOCATION 16329	0.382
PATH 671	11	LENGTH	LOCATION 16332	0.382
406 407 432 433 507 508 135 136 137 138 88			LOCATION 16335	0.382
PATH 672	10	LENGTH	LOCATION 16338	0.382
406 407 432 433 507 508 135 136 137 138 89			LOCATION 16341	0.382
PATH 673	9	LENGTH	LOCATION 16344	0.886
406 407 432 433 507 508 135 136 137 138 90			LOCATION 16350	0.886
PATH 674	8	LENGTH		
406 407 432 433 507 508 135 91				
PATH 675	8	LENGTH		
406 407 432 433 507 508 509 92				
PATH 676	10	LENGTH		
406 407 432 433 507 508 509 510 511 93				
PATH 677	11	LENGTH		
406 407 432 433 507 508 509 510 511 139 94				
PATH 678	12	LENGTH		
406 407 432 433 507 508 509 510 511 139 140 95				
PATH 679	12	LENGTH		
406 407 432 433 507 508 509 510 511 139 140 96				
PATH 680	13	LENGTH		
406 407 432 433 507 508 509 510 511 139 140 141 97				
PATH 681	11	LENGTH		
406 407 432 433 507 508 509 510 511 513 98				
PATH 682	3	LENGTH		
406 407 150				
PATH 683	3	LENGTH		
406 407 151				
PATH 684	3	LENGTH		
406 407 152				
PATH 685	3	LENGTH		
406 407 153				
PATH 686	3	LENGTH		
406 407 154				
PATH 687	6	LENGTH		
401 402 403 404 405 150				
PATH 688	6	LENGTH		
401 402 403 404 405 151				

FIGURE 4-12 (Cont.)

PATH 689	LENGTH 6					LOCATION 16356	0.886
401 402 403 404 405 152							
PATH 690	LENGTH 6					LOCATION 16362	0.886
401 402 403 404 405 153							
PATH 691	LENGTH 6					LOCATION 16368	0.886
401 402 403 404 405 154							
PATH 692	LENGTH 12					LOCATION 16374	1.874
391 392 393 394 395 398 399 400 403 404 405 150							
PATH 693	LENGTH 12					LOCATION 16386	1.874
391 392 393 394 395 398 399 400 403 404 405 151							
PATH 694	LENGTH 12					LOCATION 16398	1.874
391 392 393 394 395 398 399 400 403 404 405 152							
PATH 695	LENGTH 12					LOCATION 16410	1.874
391 392 393 394 395 398 399 400 403 404 405 153							
PATH 696	LENGTH 12					LOCATION 16422	1.874
391 392 393 394 395 398 399 400 403 404 405 154							
PATH 697	LENGTH 13					LOCATION 16434	2.044
538 537 536 535 515 438 437 436 435 434 433 432 150							
PATH 698	LENGTH 13					LOCATION 16447	2.044
538 537 536 535 515 438 437 436 435 434 433 432 151							
PATH 699	LENGTH 13					LOCATION 16460	2.044
538 537 536 535 515 438 437 436 435 434 433 432 152							
PATH 700	LENGTH 13					LOCATION 16473	2.044
538 537 536 535 515 438 437 436 435 434 433 432 153							
PATH 701	LENGTH 13					LOCATION 16486	2.044
538 537 536 535 515 438 437 436 435 434 433 432 154							
PATH 702	LENGTH 12					LOCATION 16499	1.866
519 517 516 515 438 437 436 435 434 433 432 150							
PATH 703	LENGTH 12					LOCATION 16511	1.866
519 517 516 515 438 437 436 435 434 433 432 151							
PATH 704	LENGTH 12					LOCATION 16523	1.866
519 517 516 515 438 437 436 435 434 433 432 152							
PATH 705	LENGTH 12					LOCATION 16535	1.866
519 517 516 515 438 437 436 435 434 433 432 153							
PATH 706	LENGTH 12					LOCATION 16547	1.866
519 517 516 515 438 437 436 435 434 433 432 154							
PATH 707	LENGTH 13					LOCATION 16559	1.876
530 531 517 516 515 438 437 436 435 434 433 432 150							
PATH 708	LENGTH 13					LOCATION 16572	1.876
530 531 517 516 515 438 437 436 435 434 433 432 151							
PATH 709	LENGTH 13					LOCATION 16585	1.876
530 531 517 516 515 438 437 436 435 434 433 432 152							
PATH 710	LENGTH 13					LOCATION 16598	1.876
530 531 517 516 515 438 437 436 435 434 433 432 153							
PATH 711	LENGTH 13					LOCATION 16611	1.876
530 531 517 516 515 438 437 436 435 434 433 432 154							
PATH 712	LENGTH 33					LOCATION 16624	7.618
150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 279 263 262							
261 260 2							
PATH 713	LENGTH 30					LOCATION 16657	6.961
150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 280 179 263 3							
PATH 714	LENGTH 27					LOCATION 16687	6.719
150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 284 283 282 281 4							
PATH 715	LENGTH 23					LOCATION 16714	6.126
150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 287 286 285 5							
PATH 716	LENGTH 20					LOCATION 16737	5.666
150 416 419 420 421 327 326 325 314 313 312 305 304 303 302 301 300 289 288 6							
PATH 717	LENGTH 30					LOCATION 16757	7.180
150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 107 7							
PATH 718	LENGTH 29					LOCATION 16787	7.010
150 416 419 420 421 327 326 325 314 313 312 254 255 321 320 319 318 481 480 479 478 100 101 102 103 104 105 106 8							

FIGURE 4-12 (Cont.)

PATH 719	150 416 419 420 421 327 326 325 314 313 312	28	254 255 321 320 319 318 481 480	LOCATION 16816	6.839
PATH 720	150 416 419 420 421 327 326 325 314 313 312	27	479 478 100 101 102 103 104 105	LOCATION 16844	7.335
PATH 721	150 416 419 420 421 327 326 325 314 313 312	26	479 478 100 101 102 103 104 105	LOCATION 16871	6.430
PATH 722	150 416 419 420 421 327 326 325 314 313 312	25	479 478 100 101 102 103 104 105	LOCATION 16897	6.903
PATH 723	150 416 419 420 421 327 326 325 314 313 312	24	479 478 100 101 102 103 104 105	LOCATION 16922	5.976
PATH 724	150 416 419 420 421 327 326 325 314 313 312	23	479 478 100 101 102 103 104 105	LOCATION 16946	6.449
PATH 725	150 416 419 420 421 327 326 325 314 313 312	21	479 478 100 101 102 103 104 105	LOCATION 16969	6.090
PATH 726	150 416 419 420 421 327 326 325 314 313 312	20	483 15	LOCATION 16990	5.908
PATH 727	150 416 419 420 421 327 326 325 314 313 312	20	16	LOCATION 17010	5.242
PATH 728	150 416 419 420 421 327 326 325 314 313 312	22	17	LOCATION 17030	6.570
PATH 729	150 416 419 420 421 327 326 325 314 313 312	22	109 110 18	LOCATION 17052	5.870
PATH 730	150 416 419 420 421 327 326 325 314 313 312	22	109 110 19	LOCATION 17074	5.870
PATH 731	150 416 419 420 421 327 326 325 314 313 312	22	109 110 20	LOCATION 17096	5.870
PATH 732	150 416 419 420 421 327 326 325 314 313 312	21	109 110 21	LOCATION 17118	5.642
PATH 733	150 416 419 420 421 327 326 325 314 313 312	20	109 110 22	LOCATION 17139	5.415
PATH 734	150 416 419 420 421 327 326 325 314 313 312	17	109 110 23	LOCATION 17159	5.488
PATH 735	150 416 419 420 421 327 326 325 314 313 312	16	24	LOCATION 17176	5.532
PATH 736	150 416 419 420 421 327 326 325 314 313 312	17	25	LOCATION 17192	5.002
PATH 737	150 416 419 420 421 327 326 325 314 313 312	18	112 112 26	LOCATION 17209	5.907
PATH 738	150 416 419 420 421 327 326 325 314 313 312	19	112 113 27	LOCATION 17227	5.377
PATH 739	150 416 419 420 421 327 326 325 314 313 312	20	112 113 114 28	LOCATION 17246	5.548
PATH 740	150 416 419 420 421 327 326 325 314 313 312	21	112 113 115 29	LOCATION 17266	5.718
PATH 741	150 416 419 420 421 327 326 325 314 313 312	21	112 113 116 30	LOCATION 17287	5.718
PATH 742	150 416 419 420 421 327 326 325 314 313 312	22	112 113 115 31	LOCATION 17308	5.946
PATH 743	150 416 419 420 421 327 326 325 314 313 312	21	112 113 114 32	LOCATION 17330	5.718
PATH 744	150 416 419 420 421 327 326 325 314 313 312	20	112 113 115 33	LOCATION 17351	5.548
PATH 745	150 416 419 420 421 327 326 325 314 313 312	19	112 113 114 34	LOCATION 17371	5.377
PATH 746	150 416 419 420 421 327 326 325 314 313 312	18	112 113 114 35	LOCATION 17390	5.907
PATH 747	150 416 419 420 421 327 326 325 314 313 312	17	112 113 114 36	LOCATION 17408	5.702
PATH 748	150 416 419 420 421 327 326 325 314 313 312	14	112 112 37	LOCATION 17425	5.043
PATH 749	150 416 419 420 421 327 326 325 314 313 312	38	323 492		

FIGURE 4-12 (Cont.)

PATH 749	150 416 419 420 421 327 326 325 328 329 495 118 39	LENGTH 13	LOCATION 17439	4.977
PATH 750	150 416 419 420 421 327 326 325 328 329 495 118 40	LENGTH 14	LOCATION 17452	5.181
PATH 751	150 416 419 420 421 327 326 325 328 329 495 118 119 40	LENGTH 15	LOCATION 17466	5.408
PATH 752	150 416 419 420 421 327 326 325 328 329 495 118 119 120 41	LENGTH 16	LOCATION 17481	4.913
PATH 753	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 42	LENGTH 17	LOCATION 17497	5.083
PATH 754	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 43	LENGTH 18	LOCATION 17514	5.311
PATH 755	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 44	LENGTH 19	LOCATION 17532	5.481
PATH 756	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 124 45	LENGTH 18	LOCATION 17551	6.011
PATH 757	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 46	LENGTH 18	LOCATION 17569	5.311
PATH 758	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 47	LENGTH 18	LOCATION 17587	5.311
PATH 759	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 48	LENGTH 17	LOCATION 17605	5.083
PATH 760	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 49	LENGTH 16	LOCATION 17622	5.613
PATH 761	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 50	LENGTH 15	LOCATION 17638	5.408
PATH 762	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 51	LENGTH 14	LOCATION 17653	4.481
PATH 763	150 416 419 420 421 327 326 325 328 329 495 118 119 120 121 52	LENGTH 13	LOCATION 17667	4.977
PATH 764	150 416 419 420 421 327 326 325 328 329 495 118 53	LENGTH 10	LOCATION 17680	3.797
PATH 765	150 427 428 426 425 424 499 498 125 54	LENGTH 11	LOCATION 17690	3.967
PATH 766	150 427 428 426 425 424 499 498 125 126 55	LENGTH 9	LOCATION 17701	3.513
PATH 767	150 427 428 426 425 424 499 498 56	LENGTH 9	LOCATION 17710	3.513
PATH 768	150 427 428 426 425 424 499 498 57	LENGTH 9	LOCATION 17719	3.763
PATH 769	150 427 428 426 425 424 499 127 58	LENGTH 10	LOCATION 17728	3.990
PATH 770	150 427 428 426 425 424 499 127 128 59	LENGTH 10	LOCATION 17738	3.990
PATH 771	150 427 428 426 425 424 499 127 128 60	LENGTH 10	LOCATION 17748	3.990
PATH 772	150 427 428 426 425 424 499 127 128 61	LENGTH 9	LOCATION 17758	3.763
PATH 773	150 427 428 426 425 424 499 127 62	LENGTH 8	LOCATION 17767	3.342
PATH 774	150 427 428 426 425 424 499 63	LENGTH 7	LOCATION 17775	2.872
PATH 775	150 427 428 426 425 424 64	LENGTH 5	LOCATION 17782	2.585
PATH 776	150 427 428 502 65	LENGTH 7	LOCATION 17787	3.483
PATH 777	150 427 428 502 503 129 66	LENGTH 8	LOCATION 17794	4.388
PATH 778	150 427 428 502 503 129 130 67	LENGTH 9	LOCATION 17802	4.592
PATH 779	150 427 428 502 503 129 130 131 68	LENGTH 9		

FIGURE 4-12 (Cont.)

PATH 839	151 416 419 420 421 327 326 325 314	LENGTH 22	313 312 254 255 256 111 112 113 114 115	LOCATION 18773	5.946
PATH 840	151 416 419 420 421 327 326 325 314	LENGTH 21	313 312 254 255 256 111 112 113 114 115	LOCATION 18795	5.718
PATH 841	151 416 419 420 421 327 326 325 314	LENGTH 20	313 312 254 255 256 111 112 113 114 115	LOCATION 18816	5.548
PATH 842	151 416 419 420 421 327 326 325 314	LENGTH 19	313 312 254 255 256 111 112 113 114 115	LOCATION 18836	5.377
PATH 843	151 416 419 420 421 327 326 325 314	LENGTH 18	313 312 254 255 256 111 112 113 114 115	LOCATION 18855	5.907
PATH 844	151 416 419 420 421 327 326 325 314	LENGTH 17	313 312 254 255 256 111 112 113 114 115	LOCATION 18873	5.702
PATH 845	151 416 419 420 421 327 326 325 314	LENGTH 16	313 312 254 255 256 111 112 113 114 115	LOCATION 18890	5.043
PATH 846	151 416 419 420 421 327 326 325 314	LENGTH 15	313 312 254 255 256 111 112 113 114 115	LOCATION 18904	4.977
PATH 847	151 416 419 420 421 327 326 325 314	LENGTH 14	313 312 254 255 256 111 112 113 114 115	LOCATION 18917	5.181
PATH 848	151 416 419 420 421 327 326 325 314	LENGTH 13	313 312 254 255 256 111 112 113 114 115	LOCATION 18931	5.408
PATH 849	151 416 419 420 421 327 326 325 314	LENGTH 12	313 312 254 255 256 111 112 113 114 115	LOCATION 18946	4.913
PATH 850	151 416 419 420 421 327 326 325 314	LENGTH 11	313 312 254 255 256 111 112 113 114 115	LOCATION 18962	5.083
PATH 851	151 416 419 420 421 327 326 325 314	LENGTH 10	313 312 254 255 256 111 112 113 114 115	LOCATION 18979	5.311
PATH 852	151 416 419 420 421 327 326 325 314	LENGTH 9	313 312 254 255 256 111 112 113 114 115	LOCATION 18997	5.481
PATH 853	151 416 419 420 421 327 326 325 314	LENGTH 8	313 312 254 255 256 111 112 113 114 115	LOCATION 19016	6.011
PATH 854	151 416 419 420 421 327 326 325 314	LENGTH 7	313 312 254 255 256 111 112 113 114 115	LOCATION 19034	5.311
PATH 855	151 416 419 420 421 327 326 325 314	LENGTH 6	313 312 254 255 256 111 112 113 114 115	LOCATION 19052	5.311
PATH 856	151 416 419 420 421 327 326 325 314	LENGTH 5	313 312 254 255 256 111 112 113 114 115	LOCATION 19070	5.083
PATH 857	151 416 419 420 421 327 326 325 314	LENGTH 4	313 312 254 255 256 111 112 113 114 115	LOCATION 19087	5.613
PATH 858	151 416 419 420 421 327 326 325 314	LENGTH 3	313 312 254 255 256 111 112 113 114 115	LOCATION 19103	5.408
PATH 859	151 416 419 420 421 327 326 325 314	LENGTH 2	313 312 254 255 256 111 112 113 114 115	LOCATION 19118	4.481
PATH 860	151 416 419 420 421 327 326 325 314	LENGTH 1	313 312 254 255 256 111 112 113 114 115	LOCATION 19132	4.977
PATH 861	151 416 419 420 421 327 326 325 314	LENGTH 0	313 312 254 255 256 111 112 113 114 115	LOCATION 19145	3.797
PATH 862	151 416 419 420 421 327 326 325 314	LENGTH 11	313 312 254 255 256 111 112 113 114 115	LOCATION 19155	3.967
PATH 863	151 416 419 420 421 327 326 325 314	LENGTH 10	313 312 254 255 256 111 112 113 114 115	LOCATION 19166	9.349
PATH 864	151 416 419 420 421 327 326 325 314	LENGTH 9	313 312 254 255 256 111 112 113 114 115	LOCATION 19184	3.513
PATH 865	151 416 419 420 421 327 326 325 314	LENGTH 8	313 312 254 255 256 111 112 113 114 115	LOCATION 19193	3.513
PATH 866	151 416 419 420 421 327 326 325 314	LENGTH 7	313 312 254 255 256 111 112 113 114 115	LOCATION 19202	3.763
PATH 867	151 416 419 420 421 327 326 325 314	LENGTH 6	313 312 254 255 256 111 112 113 114 115	LOCATION 19211	3.990
PATH 868	151 416 419 420 421 327 326 325 314	LENGTH 5	313 312 254 255 256 111 112 113 114 115	LOCATION 19221	3.990

FIGURE 4-12 (Cont.)

PATM 869	151 427 428 426 425 424 499 127 128	LENGTH 61	10	LOCATION 19231	3.990
PATM 870	151 427 428 426 425 424 499 127 62	LENGTH	9	LOCATION 19241	3.763
PATM 871	151 427 428 426 425 424 499 63	LENGTH	8	LOCATION 19250	3.342
PATM 872	151 427 428 426 425 424 64	LENGTH	7	LOCATION 19258	2.872
PATM 873	151 427 428 426 425 424 65	LENGTH	5	LOCATION 19265	2.585
PATM 874	151 427 428 426 425 424 66	LENGTH	7	LOCATION 19270	3.483
PATM 875	151 427 428 426 425 424 67	LENGTH	8	LOCATION 19277	4.389
PATM 876	151 427 428 426 425 424 68	LENGTH	9	LOCATION 19285	4.592
PATM 877	151 427 428 426 425 424 69	LENGTH	10	LOCATION 19294	4.797
PATM 878	151 427 428 426 425 424 70	LENGTH	11	LOCATION 19304	4.324
PATM 879	151 427 428 426 425 424 71	LENGTH	11	LOCATION 19315	4.324
PATM 880	151 427 428 426 425 424 72	LENGTH	11	LOCATION 19326	4.324
PATM 881	151 427 428 426 425 424 73	LENGTH	12	LOCATION 19337	4.495
PATM 882	151 427 428 426 425 424 74	LENGTH	11	LOCATION 19349	4.324
PATM 883	151 427 428 426 425 424 75	LENGTH	10	LOCATION 19360	4.097
PATM 884	151 427 428 426 425 424 76	LENGTH	9	LOCATION 19370	4.592
PATM 885	151 427 428 426 425 424 77	LENGTH	8	LOCATION 19379	3.688
PATM 886	151 427 428 426 425 424 78	LENGTH	7	LOCATION 19387	4.183
PATM 887	151 427 428 426 425 424 79	LENGTH	6	LOCATION 19394	3.729
PATM 888	151 427 428 426 425 424 80	LENGTH	5	LOCATION 19400	3.674
PATM 889	151 432 433 507 80	LENGTH	7	LOCATION 19405	3.599
PATM 890	151 432 433 507 508 135 81	LENGTH	8	LOCATION 19412	4.527
PATM 891	151 432 433 507 508 135 82	LENGTH	9	LOCATION 19420	4.777
PATM 892	151 432 433 507 508 135 137 83	LENGTH	9	LOCATION 19429	4.077
PATM 893	151 432 433 507 508 135 136 84	LENGTH	10	LOCATION 19438	4.304
PATM 894	151 432 433 507 508 135 137 138	LENGTH	10	LOCATION 19448	4.304
PATM 895	151 432 433 507 508 135 136 137 138	LENGTH	10	LOCATION 19459	4.304
PATM 896	151 432 433 507 508 135 136 137 138	LENGTH	10	LOCATION 19468	5.004
PATM 897	151 432 433 507 508 135 136 137 138	LENGTH	9	LOCATION 19478	4.777
PATM 898	151 432 433 507 508 135 136 137 89	LENGTH	8	LOCATION 19487	4.527

FIGURE 4-12 (Cont.)

PATH 929	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20107
PATH 930	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20124
PATH 931	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20140
PATH 932	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20157
PATH 933	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20175
PATH 934	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20194
PATH 935	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20214
PATH 936	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20235
PATH 937	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20256
PATH 938	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20278
PATH 939	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20299
PATH 940	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20319
PATH 941	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20338
PATH 942	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20356
PATH 943	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20373
PATH 944	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20387
PATH 945	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20400
PATH 946	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20414
PATH 947	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20429
PATH 948	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20445
PATH 949	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20462
PATH 950	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20480
PATH 951	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20499
PATH 952	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20517
PATH 953	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20535
PATH 954	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20553
PATH 955	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20570
PATH 956	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20586
PATH 957	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20601
PATH 958	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20615
PATH 959	172	419	420	421	327	326	325	314	313	312	254	255	321	320	488	24	LOCATION 20615

5.488
5.532
5.002
5.907
5.377
5.548
5.718
5.718
5.946
5.718
5.548
5.377
5.907
5.702
5.043
4.977
5.181
5.408
4.913
5.083
5.311
5.481
6.011
5.311
5.311
5.083
5.613
5.408
4.481
4.977

FIGURE 4-12 (Cont.)

PATH 1019	153 416 419 420 421 327 326 325 314 313 312	LENGTH 20	254 255 321 320 319 318 481 484	LOCATION 21423
PATH 1020	153 416 419 420 421 327 326 325 314 313 312	LENGTH 22	254 255 321 320 319 318 486 108	LOCATION 21443
PATH 1021	153 416 419 420 421 327 326 325 314 313 312	LENGTH 22	254 255 321 320 319 318 486 108	LOCATION 21465
PATH 1022	153 416 419 420 421 327 326 325 314 313 312	LENGTH 22	254 255 321 320 319 318 486 108	LOCATION 21487
PATH 1023	153 416 419 420 421 327 326 325 314 313 312	LENGTH 22	254 255 321 320 319 318 486 108	LOCATION 21509
PATH 1024	153 416 419 420 421 327 326 325 314 313 312	LENGTH 21	254 255 321 320 319 318 486 108	LOCATION 21531
PATH 1025	153 416 419 420 421 327 326 325 314 313 312	LENGTH 20	254 255 321 320 319 318 486 108	LOCATION 21552
PATH 1026	153 416 419 420 421 327 326 325 314 313 312	LENGTH 17	254 255 321 320 319 318 486 108	LOCATION 21572
PATH 1027	153 416 419 420 421 327 326 325 314 313 312	LENGTH 16	254 255 321 320 488 24	LOCATION 21589
PATH 1028	153 416 419 420 421 327 326 325 314 313 312	LENGTH 17	254 255 256 111 25	LOCATION 21605
PATH 1029	153 416 419 420 421 327 326 325 314 313 312	LENGTH 18	254 255 256 111 112 26	LOCATION 21622
PATH 1030	153 416 419 420 421 327 326 325 314 313 312	LENGTH 19	254 255 256 111 112 113 27	LOCATION 21640
PATH 1031	153 416 419 420 421 327 326 325 314 313 312	LENGTH 20	254 255 256 111 112 113 114 28	LOCATION 21659
PATH 1032	153 416 419 420 421 327 326 325 314 313 312	LENGTH 21	254 255 256 111 112 113 114 115	LOCATION 21679
PATH 1033	153 416 419 420 421 327 326 325 314 313 312	LENGTH 21	254 255 256 111 112 113 114 115	LOCATION 21700
PATH 1034	153 416 419 420 421 327 326 325 314 313 312	LENGTH 22	254 255 256 111 112 113 114 115	LOCATION 21721
PATH 1035	153 416 419 420 421 327 326 325 314 313 312	LENGTH 21	254 255 256 111 112 113 114 115	LOCATION 21743
PATH 1036	153 416 419 420 421 327 326 325 314 313 312	LENGTH 20	254 255 256 111 112 113 114 115	LOCATION 21764
PATH 1037	153 416 419 420 421 327 326 325 314 313 312	LENGTH 19	254 255 256 111 112 113 114 115	LOCATION 21784
PATH 1038	153 416 419 420 421 327 326 325 314 313 312	LENGTH 18	254 255 256 111 112 113 114 115	LOCATION 21803
PATH 1039	153 416 419 420 421 327 326 325 314 313 312	LENGTH 17	254 255 256 111 112 113 114 115	LOCATION 21821
PATH 1040	153 416 419 420 421 327 326 325 314 313 312	LENGTH 16	254 255 256 111 112 113 114 115	LOCATION 21838
PATH 1041	153 416 419 420 421 327 326 325 328 329 324	LENGTH 13	323 492 38	LOCATION 21852
PATH 1042	153 416 419 420 421 327 326 325 328 329 324	LENGTH 14	329 495 118 39	LOCATION 21865
PATH 1043	153 416 419 420 421 327 326 325 328 329 324	LENGTH 15	329 495 118 119 40	LOCATION 21879
PATH 1044	153 416 419 420 421 327 326 325 328 329 324	LENGTH 16	329 495 118 119 120 41	LOCATION 21894
PATH 1045	153 416 419 420 421 327 326 325 328 329 324	LENGTH 17	329 495 118 119 120 121 42	LOCATION 21910
PATH 1046	153 416 419 420 421 327 326 325 328 329 324	LENGTH 18	329 495 118 119 120 121 122 43	LOCATION 21927
PATH 1047	153 416 419 420 421 327 326 325 328 329 324	LENGTH 19	329 495 118 119 120 121 122 123 44	LOCATION 21945
PATH 1048	153 416 419 420 421 327 326 325 328 329 324	LENGTH 17	329 495 118 119 120 121 122 123 124 45	LOCATION 21964
PATH 1049	153 416 419 420 421 327 326 325 328 329 324	LENGTH 17	329 495 118 119 120 121 122 49	

FIGURE 4-12 (Cont.)

PATH	1109	420	421	327	326	325	314	LENGTH	24	313	312	254	255	321	320	319	318	481	480	LOCATION	22746	13	
154	416	419	420	421	327	326	325	314	LENGTH	23	313	312	254	255	321	320	319	318	481	480	LOCATION 22746	5.976	
PATH	1110	420	421	327	326	325	314	LENGTH	23	313	312	254	255	321	320	319	318	481	480	LOCATION 22770	6.449		
154	416	419	420	421	327	326	325	314	LENGTH	21	313	312	254	255	321	320	319	318	481	480	LOCATION 22770	6.090	
PATH	1111	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	481	484	LOCATION 22793	5.942		
154	416	419	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	481	484	LOCATION 22814	5.230	
PATH	1112	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	481	484	LOCATION 22814	6.570		
154	416	419	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	481	484	LOCATION 22834	5.870	
PATH	1113	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	481	484	LOCATION 22834	5.870		
154	416	419	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	486	108	LOCATION 22854	5.870	
PATH	1114	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	486	108	109 110 18	LOCATION 22876	5.642	
154	416	419	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	486	108	109 110 19	LOCATION 22898	5.415
PATH	1115	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	486	108	109 110 20	LOCATION 22920	5.488	
154	416	419	420	421	327	326	325	314	LENGTH	21	313	312	254	255	321	320	319	318	486	108	109 110 21	LOCATION 22942	5.532
PATH	1116	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	486	108	109 22	LOCATION 22963	5.002	
154	416	419	420	421	327	326	325	314	LENGTH	17	313	312	254	255	321	320	319	318	486	108	23	LOCATION 22983	5.907
PATH	1117	420	421	327	326	325	314	LENGTH	16	313	312	254	255	321	320	319	318	486	108	23	LOCATION 23000	5.377	
154	416	419	420	421	327	326	325	314	LENGTH	17	313	312	254	255	321	320	319	318	486	108	24	LOCATION 23016	5.548
PATH	1118	420	421	327	326	325	314	LENGTH	18	313	312	254	255	321	320	319	318	486	108	27	LOCATION 23033	5.718	
154	416	419	420	421	327	326	325	314	LENGTH	19	313	312	254	255	321	320	319	318	486	108	28	LOCATION 23051	5.718
PATH	1119	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	486	108	29	LOCATION 23070	5.946	
154	416	419	420	421	327	326	325	314	LENGTH	21	313	312	254	255	321	320	319	318	486	108	116 30	LOCATION 23090	5.718
PATH	1120	420	421	327	326	325	314	LENGTH	21	313	312	254	255	321	320	319	318	486	108	116 31	LOCATION 23111	5.946	
154	416	419	420	421	327	326	325	314	LENGTH	22	313	312	254	255	321	320	319	318	486	108	116 32	LOCATION 23132	5.718
PATH	1121	420	421	327	326	325	314	LENGTH	21	313	312	254	255	321	320	319	318	486	108	116 33	LOCATION 23154	5.548	
154	416	419	420	421	327	326	325	314	LENGTH	20	313	312	254	255	321	320	319	318	486	108	116 34	LOCATION 23175	5.377
PATH	1122	420	421	327	326	325	314	LENGTH	19	313	312	254	255	321	320	319	318	486	108	116 35	LOCATION 23195	5.907	
154	416	419	420	421	327	326	325	314	LENGTH	18	313	312	254	255	321	320	319	318	486	108	116 36	LOCATION 23214	5.702
PATH	1123	420	421	327	326	325	314	LENGTH	17	313	312	254	255	321	320	319	318	486	108	116 37	LOCATION 23232	5.043	
154	416	419	420	421	327	326	325	314	LENGTH	14	313	312	254	255	321	320	319	318	486	108	116 38	LOCATION 23249	4.977
PATH	1124	420	421	327	326	325	314	LENGTH	13	313	312	254	255	321	320	319	318	486	108	116 39	LOCATION 23263	5.181	
154	416	419	420	421	327	326	325	314	LENGTH	15	313	312	254	255	321	320	319	318	486	108	116 40	LOCATION 23276	5.408
PATH	1125	420	421	327	326	325	314	LENGTH	16	313	312	254	255	321	320	319	318	486	108	116 41	LOCATION 23290	4.913	
154	416	419	420	421	327	326	325	314	LENGTH	16	313	312	254	255	321	320	319	318	486	108	116 42	LOCATION 23305	
PATH	1126	420	421	327	326	325	314	LENGTH	14	313	312	254	255	321	320	319	318	486	108	116 43	LOCATION 23319		
154	416	419	420	421	327	326	325	314	LENGTH	13	313	312	254	255	321	320	319	318	486	108	116 44	LOCATION 23333	
PATH	1127	420	421	327	326	325	314	LENGTH	12	313	312	254	255	321	320	319	318	486	108	116 45	LOCATION 23347		
154	416	419	420	421	327	326	325	314	LENGTH	11	313	312	254	255	321	320	319	318	486	108	116 46	LOCATION 23361	
PATH	1128	420	421	327	326	325	314	LENGTH	10	313	312	254	255	321	320	319	318	486	108	116 47	LOCATION 23375		
154	416	419	420	421	327	326	325	314	LENGTH	9	313	312	254	255	321	320	319	318	486	108	116 48	LOCATION 23389	
PATH	1129	420	421	327	326	325	314	LENGTH	8	313	312	254	255	321	320	319	318	486	108	116 49	LOCATION 23403		
154	416	419	420	421	327	326	325	314	LENGTH	7	313	312	254	255	321	320	319	318	486	108	116 50	LOCATION 23417	
PATH	1130	420	421	327	326	325	314	LENGTH	6	313	312	254	255	321	320	319	318	486	108	116 51	LOCATION 23431		
154	416	419	420	421	327	326	325	314	LENGTH	5	313	312	254	255	321	320	319	318	486	108	116 52	LOCATION 23445	
PATH	1131	420	421	327	326	325	314	LENGTH	4	313	312	254	255	321	320	319	318	486	108	116 53	LOCATION 23459		
154	416	419	420	421	327	326	325	314	LENGTH	3	313	312	254	255	321	320	319	318	486	108	116 54	LOCATION 23473	
PATH	1132	420	421	327	326	325	314	LENGTH	2	313	312	254	255	321	320	319	318	486	108	116 55	LOCATION 23487		
154	416	419	420	421	327	326	325	314	LENGTH	1	313	312	254	255	321	320	319	318	486	108	116 56	LOCATION 23501	
PATH	1133	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 57	LOCATION 23515		
154	416	419	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 58	LOCATION 23529	
PATH	1134	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 59	LOCATION 23543		
154	416	419	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 60	LOCATION 23557	
PATH	1135	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 61	LOCATION 23571		
154	416	419	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 62	LOCATION 23585	
PATH	1136	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 63	LOCATION 23599		
154	416	419	420	421	327	326	325	314	LENGTH	0	313	312	254	255	321	320	319	318	486	108	116 64	LOCATION 23613	
PATH	1137	420	421	327	326	325	314	LENGTH															

PATH 1139	154 416 419 420 421 327 326 325 328 329 495	17	LENGTH	17	LOCATION 23321	5.083
PATH 1140	154 416 419 420 421 327 326 325 328 329 495	18	LENGTH	18	LOCATION 23338	5.311
PATH 1141	154 416 419 420 421 327 326 325 328 329 495	19	LENGTH	19	LOCATION 23356	5.481
PATH 1142	154 416 419 420 421 327 326 325 328 329 495	18	LENGTH	18	LOCATION 23375	6.011
PATH 1143	154 416 419 420 421 327 326 325 328 329 495	18	LENGTH	18	LOCATION 23393	5.311
PATH 1144	154 416 419 420 421 327 326 325 328 329 495	18	LENGTH	18	LOCATION 23411	5.311
PATH 1145	154 416 419 420 421 327 326 325 328 329 495	17	LENGTH	17	LOCATION 23429	5.083
PATH 1146	154 416 419 420 421 327 326 325 328 329 495	16	LENGTH	16	LOCATION 23446	5.613
PATH 1147	154 416 419 420 421 327 326 325 328 329 495	15	LENGTH	15	LOCATION 23462	5.408
PATH 1148	154 416 419 420 421 327 326 325 328 329 495	14	LENGTH	14	LOCATION 23477	4.481
PATH 1149	154 416 419 420 421 327 326 325 328 329 495	13	LENGTH	13	LOCATION 23491	4.977
PATH 1150	154 416 419 420 421 327 326 325 328 329 495	10	LENGTH	10	LOCATION 23504	3.797
PATH 1151	154 427 428 426 425 424 499 498 125	11	LENGTH	11	LOCATION 23514	3.967
PATH 1152	154 427 428 426 425 424 499 498 125	55	LENGTH	55	LOCATION 23525	3.513
PATH 1153	154 427 428 426 425 424 499 498 56	9	LENGTH	9	LOCATION 23534	3.513
PATH 1154	154 427 428 426 425 424 499 498 57	9	LENGTH	9	LOCATION 23543	3.763
PATH 1155	154 427 428 426 425 424 499 127 58	10	LENGTH	10	LOCATION 23552	3.990
PATH 1156	154 427 428 426 425 424 499 127 128	59	LENGTH	59	LOCATION 23562	3.990
PATH 1157	154 427 428 426 425 424 499 127 128	60	LENGTH	60	LOCATION 23572	3.990
PATH 1158	154 427 428 426 425 424 499 127 128	61	LENGTH	61	LOCATION 23582	3.763
PATH 1159	154 427 428 426 425 424 499 127 62	9	LENGTH	9	LOCATION 23591	3.342
PATH 1160	154 427 428 426 425 424 499 63	8	LENGTH	8	LOCATION 23599	2.872
PATH 1161	154 427 428 426 425 424 64	7	LENGTH	7	LOCATION 23606	2.585
PATH 1162	154 427 428 502 65	5	LENGTH	5	LOCATION 23611	3.483
PATH 1163	154 427 428 502 503 129 66	7	LENGTH	7	LOCATION 23618	4.388
PATH 1164	154 427 428 502 503 129 130 67	8	LENGTH	8	LOCATION 23626	4.592
PATH 1165	154 427 428 502 503 129 131 68	9	LENGTH	9	LOCATION 23635	4.797
PATH 1166	154 427 428 502 503 129 131 132	69	LENGTH	69	LOCATION 23645	4.324
PATH 1167	154 427 428 502 503 129 131 132	70	LENGTH	70	LOCATION 23656	4.324
PATH 1168	154 427 428 502 503 129 131 132	71	LENGTH	71	LOCATION 23667	4.324
PATH 1169	154 427 428 502 503 129 131 132	72	LENGTH	72		

FIGURE 4-12 (Cont.)

PATH 1229	36 114 113 112 111 256 321 320 319 318 481	23	LOCATION 24604	7.494
PATH 1230	37 113 112 111 256 321 320 319 318 481	22	667 466 465 464	
PATH 1231	38 493 492 322 321 320 319 318 481	21	LOCATION 24627	7.324
PATH 1232	39 119 118 422 324 323 322 321 320 319 318 481	24	666 465 464	
PATH 1233	40 120 119 118 422 324 323 322 321 320 319 318 481	25	LOCATION 24649	6.892
PATH 1234	41 121 120 119 118 422 324 323 322 321 320 319 318 481	26	665 464	
PATH 1235	42 122 121 120 119 118 422 324 323 322 321 320 319 318 481	27	LOCATION 24670	7.586
PATH 1236	43 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	28	668 467 466 465 464	
PATH 1237	44 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	29	LOCATION 24694	7.794
PATH 1238	45 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	29	669 468 467 466 465 464	
PATH 1239	46 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	29	LOCATION 24719	7.999
PATH 1240	47 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	29	670 469 468 467 466 465 464	
PATH 1241	48 124 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	29	LOCATION 24745	7.469
PATH 1242	49 123 122 121 120 119 118 422 324 323 322 321 320 319 318 481	28	671 470 469 468 467 466 465 464	
PATH 1243	50 122 121 120 119 118 422 324 323 322 321 320 319 318 481	27	LOCATION 24772	7.696
PATH 1244	51 121 120 119 118 422 324 323 322 321 320 319 318 481	26	672 471 470 469 468 467 466 465 464	
PATH 1245	52 120 119 118 422 324 323 322 321 320 319 318 481	25	LOCATION 24800	7.866
PATH 1246	53 119 118 422 324 323 322 321 320 319 318 481	24	673 472 471 470 469 468 467 466 465 464	
PATH 1247	54 124 125 423 331 330 324 323 322 321 320 319 318 481	26	LOCATION 24829	8.566
PATH 1248	55 126 125 423 331 330 324 323 322 321 320 319 318 481	26	674 473 472 471 470 469 468 467 466 465 464	
PATH 1249	56 497 423 331 330 324 323 322 321 320 319 318 481	25	LOCATION 24859	7.866
PATH 1250	57 497 423 331 330 324 323 322 321 320 319 318 481	25	675 474 473 472 471 470 469 468 467 466 465 464	
PATH 1251	58 497 423 331 330 324 323 322 321 320 319 318 481	24	LOCATION 24887	7.696
PATH 1252	59 128 127 498 423 331 330 324 323 322 321 320 319 318 481	27	676 475 474 473 472 471 470 469 468 467 466 465 464	
PATH 1253	60 128 127 498 423 331 330 324 323 322 321 320 319 318 481	27	LOCATION 24916	8.169
PATH 1254	61 128 127 498 423 331 330 324 323 322 321 320 319 318 481	27	677 476 475 474 473 472 471 470 469 468 467 466 465 464	
PATH 1255	62 128 127 498 423 331 330 324 323 322 321 320 319 318 481	26	LOCATION 24945	7.998
PATH 1256	63 499 498 423 331 330 324 323 322 321 320 319 318 481	26	678 477 476 475 474 473 472 471 470 469 468 467 466 465 464	
PATH 1257	64 500 424 334 333 332 331 330 324 323 322 321 320 319 318 481	28	LOCATION 25000	7.094
PATH 1258	65 503 502 426 425 334 333 332 331 330 324 323 322 321 320 319 318 481	30	679 478 477 476 475 474 473 472 471 470 469 468 467 466 465 464	

FIGURE 4-12 (Cont.)

PATH 1259	66 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319 318	32	LOCATION 25396	8.183
465 464			481 480 479 473 472 471 470 469 468 467 466	
PATH 1260	67 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	33	LOCATION 25428	9.087
466 465 464			481 480 479 473 472 471 470 469 468 467	
PATH 1261	68 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	34	LOCATION 25461	9.292
467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1262	69 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	35	LOCATION 25495	9.519
468 467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1263	70 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	36	LOCATION 25530	8.989
469 468 467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1264	71 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	36	LOCATION 25565	8.989
469 468 467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1265	72 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	36	LOCATION 25602	8.989
469 468 467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1266	73 134 133 132 131 130 129 504 429 426 425 334 333 332 331 330 324 323 322 321 320 319	36	LOCATION 25638	8.989
469 468 467 466 465 464			481 480 479 473 472 471 470 469 468	
PATH 1267	74 134 133 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	32	LOCATION 25674	8.387
465 464			552 553 554 556 557 558 559 562 561 560 560	
PATH 1268	75 133 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	31	LOCATION 25706	8.217
464			552 553 554 556 557 558 559 562 561 560 465	
PATH 1269	76 132 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	30	LOCATION 25737	8.690
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1270	77 131 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	29	LOCATION 25767	7.785
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1271	78 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	28	LOCATION 25796	8.280
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1272	79 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	27	LOCATION 25824	7.765
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1273	80 130 129 505 506 508 509 510 511 513 541 542 543 548 549 551	25	LOCATION 25851	7.498
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1274	81 135 135 509 510 511 513 541 542 543 548 549 551	25	LOCATION 25876	7.186
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1275	82 137 136 135 509 510 511 513 541 542 543 548 549 551	26	LOCATION 25901	8.136
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1276	83 137 136 135 509 510 511 513 541 542 543 548 549 551	27	LOCATION 25927	8.363
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1277	84 137 136 135 509 510 511 513 541 542 543 548 549 551	27	LOCATION 25954	7.663
464			552 553 554 556 557 558 559 562 561 560 465 464	
PATH 1278	85 138 137 136 135 509 510 511 513 541 542 543 548 549 551	27	LOCATION 25981	7.663
464			552 553 554 556 557 558 559 562 561 560 465 464	

FIGURE 4-12 (Cont.)

PATH 1279	LENGTH 27	LOCATION 26008	7.653
86 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1280	LENGTH 27	LOCATION 26035	7.663
87 138 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1281	LENGTH 27	LOCATION 26062	8.363
88 139 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1282	LENGTH 27	LOCATION 26089	8.363
89 136 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1283	LENGTH 26	LOCATION 26116	8.136
90 137 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1284	LENGTH 25	LOCATION 26142	7.886
91 136 135 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1285	LENGTH 23	LOCATION 26167	7.204
92 509 510 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1286	LENGTH 21	LOCATION 26190	6.863
93 511 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1287	LENGTH 22	LOCATION 26211	7.374
94 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1288	LENGTH 23	LOCATION 26233	7.636
95 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1289	LENGTH 23	LOCATION 26256	7.636
96 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1290	LENGTH 23	LOCATION 26279	7.636
97 141 140 139 513 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
PATH 1291	LENGTH 18	LOCATION 26302	5.311
153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 47			
PATH 1292	LENGTH 18	LOCATION 26320	5.311
153 416 419 420 421 327 326 325 328 329 495 118 119 120 121 122 123 48			
PATH 1293	LENGTH 19	LOCATION 26338	3.549
98 541 542 543 548 549 551 552 553 554 556 557 558 559 562 561 560 465 464			
THIS AIRPORT USES THE FOLLOWING:			
LINKS: 544	PATHS: 1293	PATH SEGMENTS: 26356	
AVERAGE PATH LENGTH IS 20.38 SEGMENTS			

FIGURE 4-12 (Cont.)

TAXIWAY ONE-WAY PATHS													
LINKS	9	100	101	102	103	104	105	106	107				
LINKS 4	478												
LINKS 4	486	108	109	110									
LINKS 8	256	111	112	113	114	115	116	117					
LINKS 7	118	119	120	121	122	123	124						
LINKS 2	127	128											
LINKS 7	504	129	130	131	132	133	134						
LINKS 6	507	508	135	136	137	138							
LINKS 4	512	139	140	141									
LINKS 2	484	483											
LINKS 2	483	484											
LINKS 2	289	288											
LINKS 2	289	288											
LINKS 14	316	315	287	286	285	284	283	281	280				
LINKS 14	279	263	261										
LINKS 2	125	126											
LINKS 4	135	136	137	138									
LINKS 3	139	140											
LINKS 6	129	130	131	132	133	134							
LINKS 7	111	112	113	114	115	116	117						
LINKS 8	100	101	102	103	104	105	106	107					
NUMBER OF AIRLINES													
14													
AIRLINE CODES		AA	AL	NC	BR	UA1	UA2	TW	EA	DL	OZ	AC	CO
I													

FIGURE 4-12 (Cont.)

AIRLINE GATES		7	8	9	11	13	17	30	31	10	12
AA	14	15									
AL	19										
NC	20										
UA1	21										
45	47										
61	62										
TW	33										
40	41										
EA	74										
DL	23										
OZ	54										
AC	32										
CO	79										
I	87										
NW	81										
BR	85										
UA2	46										
	50										
	51										
	53										
	55										
	57										
	58										
	59										
	60										
	61										
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A/C LATENESS DISTRIBUTION IN MINUTES (RANDOM NUMBER VERSUS TIME)

A/C SEPARATIONS

128 SEPARATION VALUES IN 4 SETS OF 32. ARRIVAL / ARRIVAL, DEPARTURE / DEPARTURE, DEPARTURE / ARRIVAL, DEPARTURE AND ARRIVAL / DEPARTURE

EACH SET OF 32 IS COMPOSED OF 16 PAIRS OF MEAN AND STANDARD DEVIATION

THE 16 SETS ARE POSSIBLE WAYS OF A/C CLASS X FOLLOWED BY A/C CLASS Y

THERE ARE 4 A/C CLASSES -- 1 - D CLASS
2 - C CLASS
3 - B CLASS
4 - A CLASS

THE ORDER OF SETS OF (X,Y) IS --
(1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4)
(3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4)

FIGURE 4-12 (Cont.)

[illegible]

FIGURE 4-12 (Cont.)

[illegible][illegible]

FIGURE 4-12 (Cont.)

A/C NO.	AIRLINE	GATE	FLT. TYPE	CLASS	ARRIVE	DEPART	SERV. TIME	ARR. RMY	DEP. RMY
1	UA1	45	4	2	1:0	2:10	29:00	2	3
2	UA1	34	4	2	1:0	2:10	29:00	2	3
3	UA1	34	4	2	1:0	2:10	29:00	2	3
4	UA1	34	4	2	1:0	2:10	29:00	2	3
5	UA1	34	4	2	1:0	2:10	29:00	2	3
6	UA1	34	4	2	1:0	2:10	29:00	2	3
7	UA1	34	4	2	1:0	2:10	29:00	2	3
8	UA1	34	4	2	1:0	2:10	29:00	2	3
9	UA1	34	4	2	1:0	2:10	29:00	2	3
10	UA1	34	4	2	1:0	2:10	29:00	2	3
11	UA1	34	4	2	1:0	2:10	29:00	2	3
12	UA1	34	4	2	1:0	2:10	29:00	2	3
13	UA1	34	4	2	1:0	2:10	29:00	2	3
14	UA1	34	4	2	1:0	2:10	29:00	2	3
15	UA1	34	4	2	1:0	2:10	29:00	2	3
16	UA1	34	4	2	1:0	2:10	29:00	2	3
17	UA1	34	4	2	1:0	2:10	29:00	2	3
18	UA1	34	4	2	1:0	2:10	29:00	2	3
19	UA1	34	4	2	1:0	2:10	29:00	2	3
20	UA1	34	4	2	1:0	2:10	29:00	2	3
21	UA1	34	4	2	1:0	2:10	29:00	2	3
22	UA1	34	4	2	1:0	2:10	29:00	2	3
23	UA1	34	4	2	1:0	2:10	29:00	2	3
24	UA1	34	4	2	1:0	2:10	29:00	2	3
25	UA1	34	4	2	1:0	2:10	29:00	2	3
26	UA1	34	4	2	1:0	2:10	29:00	2	3
27	UA1	34	4	2	1:0	2:10	29:00	2	3
28	UA1	34	4	2	1:0	2:10	29:00	2	3
29	UA1	34	4	2	1:0	2:10	29:00	2	3
30	UA1	34	4	2	1:0	2:10	29:00	2	3
31	UA1	34	4	2	1:0	2:10	29:00	2	3
32	UA1	34	4	2	1:0	2:10	29:00	2	3
33	UA1	34	4	2	1:0	2:10	29:00	2	3
34	UA1	34	4	2	1:0	2:10	29:00	2	3
35	UA1	34	4	2	1:0	2:10	29:00	2	3
36	UA1	34	4	2	1:0	2:10	29:00	2	3
37	UA1	34	4	2	1:0	2:10	29:00	2	3
38	UA1	34	4	2	1:0	2:10	29:00	2	3
39	UA1	34	4	2	1:0	2:10	29:00	2	3
40	UA1	34	4	2	1:0	2:10	29:00	2	3
41	UA1	34	4	2	1:0	2:10	29:00	2	3
42	UA1	34	4	2	1:0	2:10	29:00	2	3
43	UA1	34	4	2	1:0	2:10	29:00	2	3
44	UA1	34	4	2	1:0	2:10	29:00	2	3
45	UA1	34	4	2	1:0	2:10	29:00	2	3
46	UA1	34	4	2	1:0	2:10	29:00	2	3
47	UA1	34	4	2	1:0	2:10	29:00	2	3
48	UA1	34	4	2	1:0	2:10	29:00	2	3
49	UA1	34	4	2	1:0	2:10	29:00	2	3
50	UA1	34	4	2	1:0	2:10	29:00	2	3
51	UA1	34	4	2	1:0	2:10	29:00	2	3
52	UA1	34	4	2	1:0	2:10	29:00	2	3
53	UA1	34	4	2	1:0	2:10	29:00	2	3
54	UA1	34	4	2	1:0	2:10	29:00	2	3
55	UA1	34	4	2	1:0	2:10	29:00	2	3
56	UA1	34	4	2	1:0	2:10	29:00	2	3

FIGURE 4-12 (Cont.)

FIGURE 4-12 (Cont.)

57	EA	79	2	1:56	2:55	32.72	2	4
58	TV	36	2	1:58	2:30	41.00	2	3
59	TV	37	3	1:58	2:34	23.26	2	4
60	UAI	73	3	1:59	2:21	17.29	2	4
61	I	95	3	1:59	2:45	23.72	1	4
62	AA	18	3	2:0	2:35	52.64	1	4
63	AA	11	2	2:1	2:50	36.83	1	4
64	AA	11	2	2:1	3:30	39.71	1	4
65	AA	81	2	2:1	2:45	33.73	1	4
66	NC	22	3	2:1	2:55	16.80	1	4
67	NC	84	3	2:1	2:35	36.33	1	4
68	NC	54	2	2:1	3:0	21.45	1	4
69	TV	34	2	2:1	2:45	34.69	1	4
70	DL	23	2	2:1	2:55	29.69	1	4
71	TV	35	2	2:1	3:10	36.87	1	4
72	DL	26	2	2:1	3:34	36.81	1	4
73	AA	30	2	2:2	3:10	29.95	1	4
74	TV	43	2	2:2	3:30	33.61	1	4
75	I	91	2	2:2	4:10	46.98	1	4
76	UAI	56	1	2:2	2:25	21.42	1	4
77	CO	79	3	2:2	3:15	49.02	1	4
78	UAI	73	1	2:2	3:30	37.45	1	4
79	UAI	45	2	2:2	3:15	35.14	1	4
80	OZ	55	2	2:2	3:20	36.63	1	4
81	UAI	60	2	2:2	3:15	36.39	1	4
82	TV	44	2	2:2	3:5	33.73	1	4
83	TV	82	2	2:2	3:10	29.85	1	4
84	TV	36	2	2:2	3:25	38.57	1	4
85	UAI	62	1	2:2	3:35	35.94	1	4
86	UAI	48	2	2:2	3:35	37.62	1	4
87	UAI	49	2	2:2	3:30	30.17	1	4
88	UAI	52	2	2:2	3:35	48.05	1	4
89	UAI	46	2	2:2	3:35	33.58	1	4
90	DL	25	2	2:2	3:30	20.63	1	4
91	AA	13	3	2:2	3:15	39.21	1	4
92	TV	41	2	2:2	3:20	39.34	1	4
93	TV	39	2	2:2	3:40	40.14	1	4
94	UAI	59	2	2:2	3:30	51.32	1	4
95	UAI	50	1	2:2	3:50	38.43	1	4
96	AA	7	2	2:2	3:40	29.00	1	4
97	UAI	61	2	2:2	3:45	49.14	1	4
98	DL	27	1	2:2	4:15	31.25	1	4
99	AA	31	2	2:2	3:45	41.00	1	4
100	NC	84	2	2:2	4:0	35.33	1	4
101	EA	71	2	2:2	4:45	29.06	1	4
102	UAI	64	1	2:2	0:0	50.23	1	4
103	UAI	64	2	2:2	3:12	31.41	1	4
104	89	84	2	2:2	3:15	46.03	1	4
105	DL	25	1	2:2	3:17	32.42	1	4
106	TV	30	2	2:2	3:18	17.18	1	4
107	DL	23	3	2:2	3:20	34.17	1	4
108	AA	17	2	2:2	3:22	38.54	1	4
109	NC	82	2	2:2	3:23	38.71	1	4
110	NC	28	2	2:2	3:25	37.37	1	4
111	TV	44	2	2:2	3:28	39.10	1	4
112	AA	13	2	2:2	3:30	35.35	1	4
113	UAI	57	2	2:2	3:35	40.42	1	4
114	UAI	52	2	2:2	4:0	31.52	1	4
115	I	89	2	2:2	4:50	35.72	1	4
116	UAI	62	2	2:2	4:40		2	4

117 UAI 63
AIRCRAFT READ IN: 117

EXAMPLE 2

*** AVERAGE FLOW RATES ***

TIME - FROM 1. 0. 0 TO 2. 0. 0

RWY NO.	TOTAL	ARRIVAL		A	TOTAL		TOUCH-AND-GO		A	TOTAL		DEPARTURE	
		D	C		D	C	D	C		D	C	D	C
1	22	0.14	0.55	0.32	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0
2	34	0.21	0.65	0.15	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0
3	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	2	0.0	0.50
4	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	2	0.0	0.50
TOTAL	56	0.18	0.61	0.21	0.0	0	0.0	0.0	0.0	0.0	4	0.0	0.50

D C B A TOTAL

GRAND TOTAL FLOW 10 36 14 0 60

	TOTAL	ON GATE		A	TOTAL		OFF GATE		A
		D	C		D	C	D	C	
51	0.18	0.61	0.22	0.0	11	0.0	0.64	0.36	0.0
GA	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0
TOTAL	51	0.18	0.61	0.22	0.0	11	0.0	0.64	0.36
TAXI-IN									
TOTAL	56	0.18	0.61	0.21	0.0	11	0.0	0.64	0.36
TAXI-OUT									
TOTAL	56	0.18	0.61	0.21	0.0	11	0.0	0.64	0.36

MODEL OUTPUT FOR EXAMPLE 1
FIGURE 4-13

EXAMPLE 2

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.74	0.0
2	2.95	0.0
3	0.0	1.07
4	0.0	3.38
WEIGHTED AVERAGE	2.08	2.23

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
0.00 0.44	0.0 0.12	0.0 0.03
ARRIVAL AIRFIELD DELAY = 2.21	DEPARTURE AIRFIELD DELAY = 2.70	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 1.0.0 TO 2.0.0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	4.28	0.0
2	4.47	0.0
3	0.0	6.75
4	0.0	8.54
WEIGHTED AVERAGE	4.40	7.64

FIGURE 4-13 (Cont.)

EXAMPLE 2

*** AVERAGE FLOW RATES ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

RMY NO.	TOTAL	ARRIVAL		A.	TOTAL			TOUCH-AND-GO			DEPARTURE		
		D	C		D	C	B	D	C	B	D	C	B
1	18	0.06	0.83	0.11	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0
2	23	0.22	0.61	0.17	0.0	0	0.0	0.0	0.0	0.0	0	0.0	0.0
3	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	22	0.18	0.73
4	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0	26	0.12	0.54
TOTAL	41	0.15	0.71	0.15	0.0	0	0.0	0.0	0.0	0.0	48	0.15	0.63

D		C		B		A		TOTAL	
GRAND TOTAL FLOW	13	59	17	0	89				

	ON GATE			A	TOTAL			OFF GATE		
	TOTAL	D	C		D	C	B	D	C	B
GA	44	0.14	0.70	0.16	0.0	50	0.18	0.60	0.22	0.0
TOTAL	44	0.14	0.70	0.16	0.0	50	0.18	0.60	0.22	0.0

TAXI-IN		TAXI-OUT	
TOTAL	D	TOTAL	D
41	0.15	50	0.18

FIGURE 4-13 (Cont.)

EXAMPLE 2

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.52	0.0
2	2.69	0.0
3	0.0	2.67
4	0.0	4.56
WEIGHTED AVERAGE	1.74	3.70

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
0.29 0.76	0.0 0.69	0.0 0.10
ARRIVAL AIRFIELD DELAY = 2.72	DEPARTURE AIRFIELD DELAY = 4.56	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 2. 0. 0 TO 3. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	5.34	0.0
2	5.55	0.0
3	0.0	9.41
4	0.0	12.00
WEIGHTED AVERAGE	5.46	10.81

FIGURE 4-13 (Cont.)

EXAMPLE 2

*** AVERAGE FLOW RATES ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RBY NO.	TOTAL	ARRIVAL		A	TOUCH-AND-GO			TOTAL	DEPARTURE		
		D	C		D	C	B		D	C	B
1	11	0.18	0.73	0.09	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2	9	0.11	0.89	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.73	0.09
4	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.18	0.71	0.11
TOTAL	20	0.15	0.80	0.05	0.0	0.0	0.0	0.0	0.18	0.72	0.10

D C B A TOTAL

GRAND TOTAL FLOW 10 44 5 0 59

	TOTAL	ON GATE		A	OFF GATE		
		D	C		D	C	B
2C	20	0.15	0.80	0.05	0.0	0.18	0.76
GA	0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	20	0.15	0.80	0.05	0.0	0.18	0.76

	TOTAL	TAXI-IN		A	TAXI-OUT		
		D	C		D	C	B
TOTAL	20	0.15	0.80	0.05	0.0	0.18	0.76

FIGURE 4-13 (Cont.)

EXAMPLE 2

*** AVERAGE DELAY SUMMARY ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL RUNWAY DELAY	AVERAGE DEPARTURE RUNWAY DELAY
1	0.58	0.0
2	0.46	0.0
3	0.0	2.01
4	0.0	1.78
WEIGHTED AVERAGE	0.52	1.85

AVERAGE GATE DELAY	AVERAGE TAXI-IN DELAY	AVERAGE TAXI-OUT DELAY
ARRIVAL DEPARTURE	RUNWAY ARRIVAL CROSSING TAXI-IN	RUNWAY DEPARTURE CROSSING TAXI-OUT
0.0 0.83	0.0 0.73	0.0 0.02
ARRIVAL AIRFIELD DELAY = 1.26	DEPARTURE AIRFIELD DELAY = 2.69	

*** AVERAGE TRAVEL TIME SUMMARY ***

TIME - FROM 3. 0. 0 TO 4. 0. 0

RUNWAY NUMBER	AVERAGE ARRIVAL TRAVEL TIME	AVERAGE DEPARTURE TRAVEL TIME
1	4.61	0.0
2	5.97	0.0
3	0.0	8.78
4	0.0	9.30
WEIGHTED AVERAGE	5.22	9.15

FIGURE 4-13 (Cont.)

LINK	TAXI-IN DELAY	TAXI-OUT DELAY
9	0.0	0.3221
11	0.0	0.3369
14	0.0	1.2099
18	0.0	0.1075
19	0.0	2.8863
22	0.0	2.6373
23	0.0	3.4527
25	0.0	5.0552
26	0.0	1.3331
27	0.0	1.8123
28	0.0	0.1292
29	0.0	0.0155
30	0.0	1.7732
32	0.0	0.2660
33	0.0	0.5490
35	0.0	2.3600
36	0.0	0.5393
37	0.0	1.1432
39	0.0	2.8602
41	0.0	2.6951
44	0.0	1.8582
45	0.0	0.6331
46	0.0	1.9491
47	0.0	2.8667
49	0.0	4.9175
51	0.0	0.7578
52	0.0	9.7123
53	0.0	3.6668
59	0.0	0.2745
61	0.0	1.8620
62	0.0	2.6373
66	0.0	2.2922
70	0.0	2.1524
81	0.0	3.5607
82	0.0	1.0381
84	0.0	0.7525
90	0.0	0.7202
100	0.0114	0.0
108	0.0	0.0286
109	0.0	0.0495
112	0.0	0.036
139	0.0	0.0109
254	0.2886	0.0
255	9.9507	0.0
256	0.2565	0.0085
318	2.2747	0.1812
319	0.4451	0.0543

FIGURE 4-13 (Cont.)

320	0.0	0.1699
321	0.0	0.0640
322	1.9823	0.1176
323	0.0100	0.7221
324	0.0	0.1178
329	0.0519	0.0
330	1.1633	0.1358
332	0.0179	0.0626
400	0.0282	0.0
402	0.0095	0.0
405	0.0382	0.0
407	0.0103	0.0
416	0.0049	0.0
422	0.0	0.3100
424	0.6594	0.0
425	0.3521	0.0
428	0.0239	0.0
429	0.0232	0.0023
430	3.8885	0.0155
431	2.4815	0.0074
432	0.0126	0.0
433	2.3534	0.0
434	1.6364	0.0
435	0.3811	0.0
445	0.0143	0.0
466	0.0	0.0357
467	0.0	0.0024
468	0.0	0.1218
469	0.0	0.0289
470	0.0	0.0062
471	0.0	0.0024
472	0.0	0.0024
478	0.4130	0.0431
479	3.2091	0.1540
480	0.0158	1.9542
481	0.0	0.4226
485	0.0	0.0057
486	0.0	0.0136
491	3.1099	0.0
492	0.0	0.0059
495	12.6875	0.0
497	0.0	0.0093
504	0.0461	0.0092
507	0.2564	1.1638
508	1.7470	0.0143
513	0.0	0.0015
515	0.0226	0.0
543	0.0	0.0074
553	0.0	0.0370
560	0.0	0.0667
561	0.0	0.0080

FIGURE 4-13 (Cont.)